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Andrews University

School of Education

SCREENING FOR EATING DISORDERS UTILIZING
THE MINNESOTA MULTIPHASIC
PERSONALITY INVENTORY

A Dissertation

Presented in Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

by

Roseann M. Woodka

June 1999

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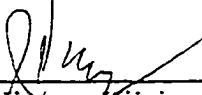
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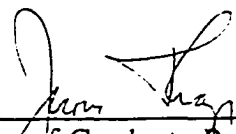
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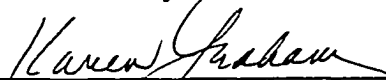
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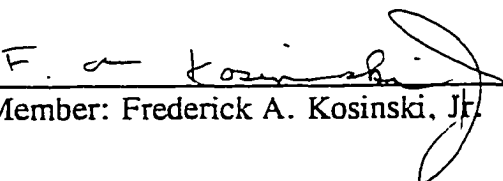
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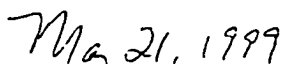

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ABSTRACT

SCREENING FOR EATING DISORDERS UTILIZING
THE MINNESOTA MULTIPHASIC
PERSONALITY INVENTORY

by

Roseann M. Woodka

Chair: Jimmy Kijai

ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

School of Education

Title: SCREENING FOR EATING DISORDERS UTILIZING THE MINNESOTA
MULTIPHASIC PERSONALITY INVENTORY

Name of researcher: Roseann M. Woodka

Name and degree of faculty chair: Jimmy Kijai, Ph.D.

Date completed: June 1999

Problem

Eating disorders, in the form of anorexia nervosa and bulimia nervosa, have been recognized as significant mental-health issues for the last three decades, and the incidence is rising as we approach the new millennium. Currently, many women who come into a mental-health setting due to depression, anxiety, low self-esteem, relationship issues, sexual issues, etc., are also struggling with eating-disordered behaviors, thoughts, and feelings. These behaviors, thoughts, and feelings may remain well hidden from the counselor throughout the course of therapy or until they become severe and more difficult to treat. Because eating disorders are very complex involving psychological, physical, and mental functioning, and because the symptoms become progressively more severe, early

detection and intervention are essential for optimal outcome. Numerous assessment instruments exist but are not employed until obvious signs of eating disorders are exhibited. This study was designed to develop a subscale from the MMPI-2 items which will screen for eating disorders. Since the MMPI-2 is widely used early in the process of psychological evaluation, it was deemed the desirable instrument to use.

Method

The methodology for this study involved scale development and included four phases. Phase 1 was the initial study in which 354 MMPI answer sheets from eating-disordered individuals were compared to 238 MMPI answer sheets from non-eating-disordered individuals in order to determine MMPI items which differentiate between the two groups. Phase 2 utilized expert judges to evaluate the pertinence of each item on an eating-disorder questionnaire and to assign directionality. Phase 3 involved administering the items remaining after the first two phases to a new research sample comprised of eating-disordered and non-eating-disordered subjects. Phase 4 entailed eliminating the items which did not meet the total correlation criterion, and computing internal consistency using Cronbach's alpha coefficient for the remaining items.

Results

This research resulted in the development of a 68-item proposed MMPI-2 subscale to screen for anorexia nervosa and bulimia nervosa. Each item met the differential criterion at the .01 level and the correlation coefficient at .33. The proposed MMPI-2 subscale has a reliability of .971 and its composition is unifactorial.

Conclusions

This research establishes the efficacy of utilizing the MMPI-2 to screen for eating disorders. Additional administration of the instrument is needed before it should move from research into practice.

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CHAPTER I

INTRODUCTION

Overview

Psychological researchers and historians have found that eating disorders, in the form of Anorexia Nervosa (anorexia) and Bulimia Nervosa (bulimia), have been known for over 3 centuries (Bliss & Branch, 1960; Bruch, 1962, 1973; Brumberg, 1988; Freud, 1954; Gull, 1873, 1888; Janet, 1920, 1957; Lasegue, 1873; Lorand, 1943; Morton, 1689; Skrabanek, 1983; Wilson, Hogan, & Mintz, 1983) and the incidence of religious fasting has been documented since the 13th century (Bynum, 1986; Hammond, 1879). The occurrence of eating disorders has been rapidly rising in the second half of the 20th century (Bruch, 1973, 1978, 1982; Bushnell, Wells, Hornblow, Oakly-Browne, & Joyce, 1990; Crisp, Palmer, & Kalucy, 1976; Darby, Garfinkel, Garner, & Coscina, 1983; Emmett, 1985; Halmi, Falk, & Schwartz, 1981; Hoek, 1993, 1995; Lucas, Beard, O'Fallon, & Kurkland, 1991; Minuchin, Rosman, & Baker, 1978; Pyle et al., 1983; Vigersky, 1977). It is estimated that as many as 5 million Americans struggle with anorexia nervosa or bulimia nervosa (Hotelling, 1998).

Inpatient and outpatient treatment centers have been established throughout the United States and elsewhere in the world. Many individuals, mostly females (Andersen, 1992; Bruch, 1973; Minuchin et al., 1978; Orbach, 1978), have been

helped. (Because of this fact, feminine pronouns will be used throughout this dissertation.) Unfortunately, due to the multifactorial etiology of anorexia and bulimia (Bruch, 1973; Cooper, 1995; Crowther, Tennenbaum, Hobfoll, & Stephens, 1992; Emmett, 1985; Hsu, 1990; Humphrey, 1992; Johnson & Connors, 1987; Minuchin et al., 1978; Strober, 1991; Williamson, Prather, & Goreczney, 1989; Woodside, 1993), many individuals have not successfully sustained psychological, physical, and behavioral recovery (Aronson, 1993; Minuchin et al., 1978).

As an eating disorders' specialist, it has come to my attention that using the MMPI to screen for anorexia and bulimia would benefit psychologists, therapists, social workers, counselors, and treatment centers dealing with this population. Several instruments to assess eating disorders currently exist. Most notably of those are the Eating Disorders Inventory-2 (EDI-2; Garner, Olmsted, & Polivy, 1983); the Eating Attitudes Test (EAT; Garner & Garfinkel, 1979); the Eating Disorder Examination (EDE; Cooper & Fairburn, 1987); the Questionnaire for Eating Disorder Diagnosis (Q-EDD; Mintz, O'Halloran, Mulholland, & Schneider, 1997); and the Stirling Eating Disorder Scales (SEDS; Williams et al., 1994). The administration of one of these instruments must be augmented by a thorough clinical interview (Johnson & Pure, 1986; Williamson, 1990; Williamson, Anderson, Jackman, & Jackson, 1995; Wolf & Akamatsu, 1994) including personal history of weight, diet, exercise, purging, menstruation, and substance usage, as well as the MMPI/MMPI-A for the assessment to be comprehensive.

Identifying items on the MMPI which screen for eating disorders would augment

other assessment measures. Additionally, eating-disordered individuals are extremely secretive about the maladaptive behaviors and may be in therapy for a plethora of secondary or other reasons, e.g., depression, anxiety, interpersonal problems, family discord, or a multitude of other problems without exhibiting any indications as to the eating/body-image problems. Because the MMPI is the most frequently administered personality inventory in clinical populations at large (Lubin, Larsen, Matarazzo, & Seever, 1985; Mitchell, 1985), and the MMPI-2 is a direct derivative from the original MMPI (Butcher, 1990; Graham, 1993), many individuals with eating-disordered symptoms could be detected earlier with the subscale derived from this study. Earlier detection would enhance the chance for recovery from these life-threatening disorders.

Statement of the Problem

Currently, many women who come into a mental-health setting due to depression, anxiety, low self-esteem, relationship issues, sexual issues, etc., are also struggling with eating-disordered behaviors, thoughts, and feelings. These behaviors, thoughts, and feelings may remain well hidden from the counselor throughout the course of therapy or until they become severe and more difficult to treat. Health care professionals also often fail to recognize eating-disordered symptoms (and therefore do not administer eating-disorder instruments) in groups not believed to be at risk for anorexia or bulimia. These underdiagnosed and undertreated groups include non-White females (Hsu, 1987; Maceyko & Nagelberg, 1985), older women (Jonas. Pope,

Hudson, & Satlin, 1984), males, lesbians, and individuals in lower socioeconomic classes (Dolan, Evans, & Lacey, 1989; Dornbusch et al., 1984).

Because the MMPI-2 is used ubiquitously in clinical settings (Butcher & Pope, 1992; Butcher & Williams, 1992; Graham, 1993; Greene, 1990b), the covert signs of eating-disordered symptomatology could be detected early in the treatment process. Additionally, individuals in what are considered low-risk groups would also benefit from earlier detection. The purpose of this study, then, is to identify items from the MMPI (and converted to MMPI-2 item numbers) which would comprise a subscale for the screening of individuals who have, or may be at risk for, Anorexia Nervosa (anorexia) and Bulimia Nervosa (bulimia). This study compares item responses from a sample of eating-disordered clients with item responses from a sample of non-eating-disordered clients.

Significance of the Study

There is a preponderance of individuals with eating disorders, and these disorders are always life-damaging and potentially fatal (Aronson, 1993; Bruch, 1973; Emmett, 1985; Kaplan & Garfinkel, 1993; Lucas et al., 1991; Minuchin et al., 1978). Because the MMPI is one of the most widely used psychological instruments in mental-health settings, all individuals to whom it is administered may be screened for eating-disordered attitudes regardless of the presenting problems. With this MMPI screening subscale, mental-health professionals can be alerted to eating issues which might not otherwise be detected in a timely fashion or at all. When profiles occur with elevations

on this screening device, mental health professionals may then make further assessment of eating-disordered symptomatology by utilizing structured and focused clinical interviews, and other assessment instruments. Presently, many individuals with eating disorders go unnoticed in mental-health settings due to the secretiveness and the multidimensional aspect of presenting problems in this population. Mental health professionals are not likely to administer targeted eating-disorder instruments unless anorexia or bulimia is the presenting problem or symptomatology is evident. This screening subscale will be a valuable asset to the field of eating disorders as professionals seek to identify and treat these secretive disorders in the earliest stage possible.

Easy access to the MMPI-2 by professionals makes the MMPI a desirable instrument from which to develop this screening measure. This MMPI screening measure could be incorporated into the more recently developed MMPI-2. Additionally, managed-care companies do not allow the clinician the luxury of lengthy assessment and treatment of mental-health issues, thus the earlier that at-risk individuals are identified, the more effectively and efficiently they can be treated. The MMPI-2 is available to outpatient therapists, counselors, treatment centers, inpatient hospitals, community mental-health agencies, and university counseling centers making administration and results easily accessible. From this research, it is hoped that an eating-disorders subscale will be developed for the MMPI-2, and will spur similar research for the MMPI-A.

Definitions

The following terms are defined as used in this dissertation:

Anorexia Nervosa (anorexia): Anorexia technically means “loss of appetite due to nerves.” This, however, is far from the truth. Anorexics are frantically preoccupied with food and eating but they deny the hunger and the impulse to act on it. There is a deliberate and relentless pursuit of thinness triggered by a multitude of factors (Bruch, 1978; Garner & Garfinkel, 1985) which is discussed in chapter 2.

DSM-IV criteria for Anorexia Nervosa are:

- A. Refusal to maintain body weight at or above a minimally normal weight for age and height (e.g., weight loss leading to maintenance of body weight less than 85 % of that expected; or failure to make expected weight gain during period of growth, leading to body weight less than 85 % of that expected).
- B. Intense fear of gaining weight or becoming fat, even though underweight.
- C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight.
- D. In postmenarcheal females, amenorrhea, i.e., the absence of at least three consecutive menstrual cycles. (A woman is considered to have amenorrhea if her periods occur only following hormone, e.g., estrogen, administration.)

Restricting Type: during the current episode of Anorexia Nervosa, the person has not regularly engaged in binge-eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas)

Binge-Eating/Purging Type: during the current episode of Anorexia Nervosa, the person has regularly engaged in binge-eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas). (APA, 1994, pp. 544-545)

Bulimia Nervosa (bulimia): The term "bulimia" actually comes from a Greek word meaning "the hunger of an ox," but as with anorexia, hunger is not the problem. For the bulimic, the episodes of binge eating are usually triggered by emotional upset and not by physical hunger. By way of diagnostic criteria, the DSM-IV states that Bulimia Nervosa (bulimia) involves:

- A. Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following:
 - (1) eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances
 - (2) a sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating)
- B. Recurrent inappropriate compensatory behavior in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, enemas, or other medications; fasting; or excessive exercise.
- C. The binge eating and inappropriate compensatory behaviors both occur, on average, at least twice a week for three months.
- D. Self-evaluation is unduly influenced by body shape and weight.
- E. The disturbance does not occur exclusively during episodes of Anorexia Nervosa.

Purging Type: during the current episode of Bulimia Nervosa, the person has regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics, or enemas

Nonpurging Type: during the current episode of Bulimia Nervosa, the person has used other inappropriate compensatory behaviors, such as fasting or excessive exercise, but has not regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics, or enemas. (APA, 1994, pp. 549-550)

Eating disorder: This term is used interchangeably with the terms anorexia nervosa (anorexia) and bulimia nervosa (bulimia).

Minnesota Multiphasic Personality Inventory (MMPI): The MMPI is a personality inventory composed of 566 true/false items and was designed to diagnose patients into different categories of neuroses and psychoses. Currently, the instrument is used in mental health settings, hospital psychiatric units, university counseling centers, employment and career centers, and in industrial settings.

Eating Disorders Inventory-2 (EDI-2): The EDI-2 is aimed at the delineation and measurement of psychological features or symptom clusters thought to be relevant in understanding eating disorders. It contains measurement on eight subscales: drive for thinness (DT), bulimia (B), body dissatisfaction (BD), ineffectiveness (I), perfectionism (P), interpersonal distrust (ID), interoceptive awareness (IA), maturity fears (MF) and three provisional subscales: asceticism (A), impulse regulation (IR), and social insecurity (SI).

Michiana area: Michiana area refers to Southwestern lower Michigan and Northern Indiana.

Delimitations

Because the preponderance of diagnosed eating disorders is evidenced in females, only female MMPI answer sheets were used for this study.

The database for Phase 1 of this study was limited to answer sheets procured from Healthy Options for Problem Eaters (HOPE), Memorial Hospital, South Bend, Indiana, for the eating-disordered population. The general clinical sample answer

sheets for Phase I were obtained solely from Psychological and Family Consultants (PFC).

The cross-validation eating-disorder data were procured from HOPE, PFC, St. Anthony's Memorial Hospital, Michigan City, Indiana, and area clinicians. Non-eating-disordered cross-validation data were collected from PFC and area clinicians.

The review of literature and conclusions were in reference to anorexia nervosa and bulimia nervosa. It should not be assumed that eating disorders are limited to these two types. Binge eating without compensatory behaviors is also a serious concern but inclusion of this population was beyond the scope of this study.

Limitations

Limitations of this study are relative to the time lapse between the clients' responding to the MMPI in the years between 1987-1995 and the initiation of the study in 1997. Eating-disorder symptomatology has remained stable over the years. therefore, this limitation should not adversely affect the data.

Additionally, it would have been desirable to utilize the MMPI-2 directly rather than convert MMPI items into MMPI-2 items. Because of the relatively large number of eating-disordered MMPI protocols (354) available as opposed to the few eating-disordered MMPI-2 protocols available (60), it was deemed acceptable to use the conversion procedure in the study.

Every attempt was made to ensure that the general clinical sample did not include individuals with anorexic and/or bulimic symptomatology. I read progress notes and

treatment summaries for this population. It is possible that some symptomatology slipped past the counselor and me, and, therefore, these subjects could be included in the general clinical sample. It is believed that if this did occur, the incidence was extremely small and did not contaminate the study.

Organization of the Following Chapters

This chapter has provided an introduction to the problem of eating-disorders and the assessment of eating-disorders. Terms have been defined, limitations and delimitations have been delineated, and the heuristic value of the study has been set forth. Chapter 2 presents a comprehensive review of the literature and research pertaining to etiology, symptomatology, epidemiology, and impact of the eating disorders on the lives of those affected. Chapter 3 includes research methodology and design, procedures used to collect data, and data analysis procedures. Chapter 4 provides a detailed analysis of the data. In Chapter 5, I discuss the conclusions and implications of the study, and make recommendations for further study related to earlier detection and screening for eating disorders.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter covers a comprehensive review of the eating disorders literature over the past 10 years as well as a review of pertinent research on the MMPI and its subscales. The following aspects of eating disorders are discussed: historical perspective; demographics; etiological factors; physical, behavioral, and psychological symptomatology; co-morbidity, and assessment. The MMPI is discussed in the context of its history; clinical, supplemental, and content scale development; applicability to eating disorders and its relationship to the MMPI-2.

Eating Disorders

Historical Perspective

Although popularly thought to be a phenomenon of the 1980s and 1990s, eating-disordered behaviors and attitudes have been exhibited by humankind far back into documented history. The current diagnoses of anorexia nervosa and bulimia nervosa have roots traced as far as antiquity (Habermas, 1989, 1992; Parry-Jones & Parry-Jones, 1991; Skrabanek, 1983; Stein & Laakso, 1988). The similarities of the behaviors over time are numerous, and the differences are likely due to the changing social climate of the past 2,000 years.

As far back as the Paleolithic era, gluttony followed the many famines and religious fasts, and these gluttonous feasts were terminated by vomiting (Powdermaker, 1973). Around 400-300 B.C., the Book of Medicines referred to “bolimos” translated “lust of the dog.” Bolimos was described as stomach faintness due to physical coldness (first noted in Greek expeditionary forces), extreme hunger, weakness, and emptiness. Coetaneously, the Jewish Talmud noted “bootmot” as a ravenous and life-threatening ailment which led to impaired judgment about food consumption, decreased alertness, and an inability to concentrate. The antidote for this malady was the ingestion of honey and sweet foods. “Bulimia” was referred to as early as A.D. 100 as a physiological response to prolonged food deprivation and resulted in the sensation of being cold, faint, and exhausted. By A.D. 400, Aurelias wrote about two distinct diseases which he believed to be chronic in many individuals. These diseases were called “morbid hunger” which involved ravenous appetite, an absence of chewing the food, and subsequent vomiting; and “phagedaena” which involved emaciation, swelling in the lower face, and decayed teeth (Parry-Jones & Parry-Jones, 1995). Even in those ancient times, there are evidences of the behaviors currently associated with eating disorders.

Medieval times also are ripe with historical documentation of behaviors similar to those we classify as anorexia nervosa and bulimia nervosa (Boskind-White & White, 1986; Bruch, 1973; Parry-Jones & Parry-Jones, 1995; Wilson et al., 1983). Early Egyptians believed that food was the cause of disease, and they deliberately vomited on a monthly basis in order to rid their bodies of the impurities that the food brought. The

Roman vomitoriums, which were used to relieve Romans after their notorious gorging on lavish delicacies, have been described in history books throughout the ages (Bliss & Branch, 1960). Self-induced vomiting was also a means of penance used by ascetic medieval nuns, most notably Catherine of Siena who used a straw to induce vomiting to purify her soul (Parry-Jones & Parry-Jones, 1995). Religious fasts were also a means of body and soul purification. These fasting rituals, holy anorexia, were intended to liberate the self (usually female saints) from the evils of selfishness and materialism by transcending bodily needs, and were to lead to eternal salvation (Aronson, 1993; Bruch, 1973; Brumberg, 1988; MacCulloch, 1912; Skrabanek, 1983). People in the Medieval period were caught between the opposing forces of the Roman Catholic Church, which taught that gluttony was one of the Seven Deadly Sins, and the real fear of diminishing food supplies which caused overconsumption during prosperous times and was, therefore, sinful (Parry-Jones & Parry-Jones, 1995).

In scientific study, these early accounts of self starvation and gluttonous behaviors are considered anecdotal, interesting stories, and hyperbole, but not scientifically or medically significant (Parry-Jones & Parry-Jones, 1995; Silverman, 1995; Skrabanek, 1983). It was not until 1689 that R. Morton documented the first medical accounts (one female and one male) of anorexia nervosa which he termed “nervous consumption” (Casper, 1983; Silverman, 1995) or “consumption of mental origin” (Aronson, 1993; Strober, 1986). Morton differentiated the common form of consumption from this nervous consumption. His female patient refused treatment and died of the illness. Both patients exhibited symptoms of indifference to starvation,

extreme emaciation, hyperactivity, and the female had amenorrhea (Aronson, 1993). “Caninus appetitus” was cited by James in 1743 (Parry-Jones & Parry Jones, 1995; Stunkard, 1993) and was described as intense preoccupation with food and episodic overeating which would lead to fainting and sometimes vomiting (Stein & Laasko, 1988; Stunkard, 1993). James also distinguished boulimus from illnesses associated with worms, ulcers, or normal pregnancy (Stein & Laasko, 1988). In the 1760s, Whytt reported cases which he called “gastric nerves” (Aronson, 1993, p. xiv). He cited episodes of unusual food aversion alternating with episodes of compulsive food cravings and resulting in marasmus--“sensible wasting of the body” (Silverman, 1995, p. 142). Repugnance of food and malnutrition were noted in 1789 by Mesmer and Naudeau (Bliss & Branch, 1960), and in the same year, Nandeu (possibly the same person as Naudeau) stated that the etiological factor of this illness was the pernicious influence of the patient’s mother (Aronson, 1993). Seven forms of bulimia were proposed by W. Cullen in 1772 whereas Motherby described three distinct types of bulimia (pure hunger type, type associated with fainting, and type terminated by vomiting) in 1785 (as cited in Stein & Laakso, 1988; Stunkard, 1993).

In the late 1800s numerous other physicians had written about individuals with aberrant eating behaviors. The cases were significant enough that bulimia, as binge eating, was included in the Encyclopaedia Britannica, in the Dictionnaire de Medecine et Chirurgie (Stunkard, 1993), The New Dictionary of Medical Science, and The Edinburgh Medical and Physical Dictionary (Stein & Laasko, 1988). While many of the descriptions were brief, the latter comprised a two-and-one-half page discussion of

bulimia and a paragraph on anorexia (Stein & Laasko, 1988). One account is of a girl who stole food from classmates and reportedly ate 8-10 pounds of bread in one day. Main symptoms were a preoccupation with food and consumption of enormous amounts of food with no apparent satiation. Three forms of bulimia were noted at this time: "cynorexia"--binge eating followed by vomiting; "hyperoexia"--repeated consumption of small amounts of food; and "polyphagia"--ingestion of large amounts of food with no satiety (Stunkard, 1993, p. 16). Louis-Victor Marce described pubescent girls who were experiencing a persistent distaste for food and who were convinced that they could not or would not eat. He used the term "cerebronervous" (p. 142) and considered these girls insane (Silverman, 1995). Sir William Gull (1873) coined the term *anorexia nervosa* (Casper, 1983; Crowther, Wolf, & Sherwood, 1992; Habermas, 1989; Strober, 1986) as he detailed his treatment of a 17-year-old female. He described this patient as emaciated due to loss of appetite, having occasional episodes of voracious appetite, experiencing amenorrhea, having decreased pulse and respiration, having a collapsed abdomen, being restless, gravitating toward physical exercise, and indicating the presence of no pain (Strober, 1986).

At approximately the same time as Pierre Janet's writings, Charles Lasegue was treating eight patients between the ages of 18 and 32 whom he diagnosed as "*anorexia hysterique*," which he believed had an emotional etiology and linked it to hypochondriasis (Casper, 1983; Janet, 1920; Lasegue, 1873; Strober, 1986). Hysterical anorexy was believed to have mental and physical aspects and was ascribed to the "action of the demon or to that of God" (Janet, 1920, p. 228). The key symptom was

the systematic refusal of food and was most frequently seen in women between the ages of 16-23 (Lasegue, 1873). Lasegue also found an “excessive fondness for physical exercise” in the patients (Janet, 1920, p. 239). It was believed that the motivation behind the exercise was to convince observers that the patient was strong and robust in order not to be urged or forced to eat more. Janet (1920) disputed this belief as well as the notion that the physical exercise was initiated to help the individual to grow thin. He stated that the individual feels a need to suppress the sense of fatigue and, by exercising, feelings of euphoria and happiness are produced. Needing food equates with weakness and depression and the euphoria negates the need for food. Janet (1920) also described bulimia, as it occurs in hysteria, as the inability to stop eating. He said that these patients feel “weakened, depressed and have taken the mania to revive themselves” (p. 265). In all of the symptomatology that correlates with the present understanding of anorexia and bulimia, the salient feature of fear of becoming fat was reported only by Worthington in 1875 and described anecdotally by Charcot several years later (Bruch, 1973). Charcot discovered a rose-colored ribbon tied around a female patient’s waist which was intended to ensure that the patient did not become fat. She stated that death was preferable to becoming fat like her mother (Bruch, 1973; Janet, 1920).

By the early 20th century, the aberrant eating behaviors described above were widely known in medical arenas and were diagnosed as specific illnesses of psychological origin (Binswager, 1958; Lindner, 1955). Janet (1920) termed the illnesses as anorexia and bulimia. In 1906 Pierre Janet noted in the case of Nadia

(who consumed only 2 small boullion cubes, 1 egg yolk, 1 teaspoon of vinegar, and 1 cup of tea daily) that there seemed to be a deep psychological aspect in which the refusal to eat was an outward expression of an inner turmoil (Aronson, 1993), specifically, a fear of being fat and rejecting femininity (Boskind-White & White, 1986). Not long thereafter, however, M. Simmonds set forth his theory of “pituitary marasmus,” cachexia of the pituitary, or pituitary leisions as the biological cause of anorexia and the psychological factors were largely ignored for about 40 years (Aronson, 1993; Bruch, 1985; Casper, 1983; Fairburn & Wilson, 1993; Strober, 1986). In the 1930s cachexia of the pituitary was thought to be separate from the psychogenic form of anorexia (Bruch, 1985; Casper, 1983). Both were poorly diagnosed and poorly treated at the time (Bruch, 1985). Similarly, bulimia was thought to be a symptom of emotional deprivation and poor social adaptation of juveniles and refugees, and it, too, was poorly diagnosed and poorly treated (Parry-Jones & Parry-Jones, 1995; Stein & Laakso, 1988). With the popularity of psychoanalytic thought came the theory that eating disorders were a function of unconscious conflict, oral fears, and regressive wishes and fantasies bringing the etiology back to a psychological one. Additionally, anorexia was seen as a conversion hysteria which was oral in nature and a symbol of the patient’s rejection of sexuality (Boskind-White & White, 1986; Bruch, 1985; Strober, 1986).

Hilde Bruch was the forerunner in clinical writing in the mid-20th century (Bruch, 1985; Casper, 1983; Habermas, 1989; Strober, 1986). In 1961 she wrote a paper documenting 12 cases of anorexia nervosa which was a significant sample for the

time. She believes that the number would have been larger if the illness had not been frequently misdiagnosed (Bruch, 1973, 1985). Bruch brought the focus back to the psychological aspects of the disorder by discovering her patients' deep sense of ineffectiveness, faulty perceptions of body size and shape, and altered awareness of affective and visceral states. Bruch was perhaps the first person to see anorexia as an adaptive state--the individual's way to correct feelings of ineffectiveness and overcome feelings of external control (Bruch, 1973, 1978, 1982, 1985; Silverman, 1995; Strober, 1986).

By the early 1970s, anorexia nervosa was treated in specialized treatment centers, and bulimia was not yet widely accepted as a discrete eating disorder (Aronson, 1993; Boskind-White & White, 1986; Garner & Garfinkel, 1985; Parry-Jones & Parry-Jones, 1995). The ICD-9 (1977) defined bulimia as polyphagia, excessive eating, or hyperalimentation (Parry-Jones & Parry-Jones, 1995) but bulimia nervosa did not become recognized as a syndrome in the United States until 1979 when Russell distinguished it as a separate disorder (APA-DSM-III, 1980; Boskind-White & White, 1986; Casper, 1983; Hoek, 1993; Russell, 1979, 1988). Boskind-White and White (1983) coined the term bulimarexia and operationally defined it as "habitual behavior in terms of gorging, purging, and those salient dynamics that include perfectionism, obsessive concern with food and body proportions, isolationism, low self-esteem, and a strong commitment to please others, often at the individual's expense" (p. 20). By the 1980s the growing awareness by health-care professionals, as well as the public, created an environment open to research, clinical writing, and treatment approaches for

anorexia nervosa and bulimia nervosa. The negative effect of the interest in eating disorders has been the notoriety and glamorization of these serious disturbances. In spite of the plethora of research and the multitude of treatment approaches, the prevalence of eating disorders has been on a rapid rise throughout the 1980s and 1990s (Aronson, 1993; Boskind-White & White, 1986; Bruch, 1985; Casper, 1983; Garner, Garfinkel, & O'Shaughnessy, 1985; Habermas, 1989; Halmi et al., 1981; Hoek, 1993; Pyle, Halvorson, Neuman, & Mitchell, 1986).

Sociocultural Perspective

The history of eating-disordered symptomatology is a lengthy one which spans generations. The question arises as to what were and what continue to be the sociocultural aspects in disordered eating? There have always been numerous sociocultural influences on food consumption and weight, and those influences remain salient today. Immediate families, extended families, organizations, communities, societies (Sobal, 1995), and religious groups all affect issues of food, eating, and attitude about body weight. In this section I discuss remote sociocultural aspects. Because the social influences of the 20th century have had a direct impact on the current understanding of eating disorders, they are addressed later in this chapter under "Etiology."

Meat was the main food staple in Paleolithic times, and primitive women needed surplus fat acquired through consumption of large amounts of meat to sustain them during hunting season when the men were gone. The role of these women was as

preparers of food and bearers of children, and the image of fertility, health, and survival was uppermost. The ideal body was one of plumpness, roundness, and rotundity (Boskind-White & White, 1986; Bruch, 1973). Activities related to food (e.g., hunting, fishing, gathering, farming, and raising livestock), consumed the lives of early humans. Food was used to alleviate pain and despair, and was essential in rituals of hospitality. Because women were the preparers of the food, they were held in social and religious esteem (Boskind-White & White, 1986). The fear of starvation and unstable food supplies in early times were such a reality that Bruch (1973) has said that the history of humankind could be called “the chronicle of his quest for food” (p. 9). Fear of hunger is so universal that the withholding of food from another person has been used as punishment. The Holocaust is the most poignant example.

Throughout the course of history, women’s bodies have been viewed as the essence of womanhood. The shape and the size of the desirable woman’s body has changed through the years, but the focus on the body itself has not. Artistic depictions of women show bodies with large breasts and abdomen, and heavy hips and thighs. Roundness was associated with fertility, prosperity, vitality, and happiness (Bruch, 1973). By the 1700s, however, as well as in earlier Egyptian cultures, the ideal woman was slimmer with small waist, large breasts, and her body was intended to give men pleasure. Plumpness began to be seen by the 1800s as bourgeois and was no longer seen as the ideal body size and shape of the elite class. Curvaceousness, the hourglass figure, became desirable (Boskind-White & White, 1986). Ambrose Bierce

(1958) sums it up: "To men, a man is but a mind, who cares what face he carries? But woman's body is the woman" (cited in Garner & Garfinkel, 1985, p. 391).

Demographic Features

Numerous factors must be considered when reviewing the demographic features of the eating-disordered population as there is tremendous disparity between the studies undertaken in the past 2 decades.

1. Definitions and diagnostic criteria have changed since the 1970s.
2. There was, and continues to be, a lack of standardized instrumentation for measuring eating disorders.
3. Inclusive ages of the subjects vary from study to study which may alter findings.
4. Subject samples were procured from diverse settings, e.g., mental-health clinical settings, general medical practice settings, college settings, inpatient psychiatric settings, residential treatment settings, private schools, public schools, general population.
5. Sample sizes were often small and/or there were low response rates.
6. The tendency toward denial and minimization in eating-disordered individuals may alter results.
7. Covert and hidden symptomatology may go unreported.
8. Methodologies employed in the studies are quite diverse, e.g, self-report, screening measures, clinical interviews, observations, case registers, or a combination.

9. Some studies focused on anorexia, some on bulimia, some on eating disorders in general (Davis & Yager, 1992; Fairburn & Beglin, 1990; Gard & Freeman, 1996; Hoek, 1993; Patton & King, 1991; Woodside & Garfinkel, 1992).

There is a popular belief that eating disorders are illnesses of adolescent or young Caucasian females who come from middle-to upper-class families (Calden, Lundy, & Schlater, 1959; Fallon & Rosen, 1985; Jourard & Secord, 1955; Roden, Silberstein, & Striegel-Moore, 1985; Singer & Lamb, 1966). Studies reveal that indeed there is truth to this belief, but it is not the complete truth. Eating disorders may extend far beyond the realm of young Caucasian females. Maceyko and Nagelberg (1985) reported a similar number of cases of bulimia in Black and Caucasian high-school females. Chandler, Abood, Lee, Cleveland, and Daly (1994) reported that pathogenic eating attitudes and behaviors occur more frequently in White females (16%) than in Black females (8%). It is hypothesized that Black females are more satisfied with their body size and shape than are White females thus accounting for the lower rate of eating pathology. Other researchers contend that there is a lack of information regarding ethnicity and race in the eating-disorder literature which should not be misconstrued to imply that eating disorders do not exist in non-Caucasian populations (Chandler et al., 1994; Davis & Yager, 1992; Hsu, 1987; Thompson, 1992). One of the reasons for this bias in research findings is that non-Caucasians are less likely to seek help than Caucasians and many of the studies are undertaken in treatment settings (Davis & Yager, 1992; Hsu, 1990; Jones, 1980). These women are also often overlooked or missing from studies because of clinicians' stereotypical

thinking, specifically, that eating disorders occur in Caucasian females (Silber, 1986; Thompson, 1992). There is a general lack of mental health research on African-Americans, Latinos, Asian Americans, Hispanics, and Native Americans and even less in reference to eating disorders (Thompson, 1992). Acculturation is believed to be a factor when nondominant-culture individuals do present with eating disorders. As minority individuals accept White culture and values (unrealistic expectation of thinness, women's role in society, change in women's social standards, attitudes toward obesity) they are more likely to develop eating-disorder symptomatology (Buchan & Gregory, 1984; Hoek, 1993; Hsu, 1990; Lacey & Dolan, 1988; Silber, 1986). Contradicting the acculturation theory, Yoshimura (1995) conducted a study of 31 Asian American females and found that acculturation was not significantly correlated with either the thin beauty standard or eating-disordered symptomatology. There clearly need to be more multicultural studies undertaken to obtain a true picture of the extent and magnitude of eating disorders in minority populations (Davis & Yager, 1992).

Another demographic feature is the common belief that eating disorders are linked to affluence or middle-upper middle-class society (DiNicola, 1990; Hoek, 1993; Vandereycken & Hoek, 1993). As far back as the 19th century, Fenwick (1880) observed that anorexia was found more frequently in wealthier classes of society than in lower classes. Studies which support this observation are Cooper and Fairburn (1983), Crisp, Hsu, Harding, and Hartshorn (1980), Fosson, Knibbs, Bryant-Waugh, and Lask (1987), Gowers, Crisp, Jonghin, and Bhat (1991), Higgs, Goodyer, and Birch (1989),

Kendell, Hall, Hailey, and Babigan (1973), Morgan and Russell (1975), Pope, Hudson, and Yurgelun-Todd (1984a), Santonastao, Favaretto, and Canton (1987), Willi and Grossman (1983), and Szmukler (1985). It must be noted, however, that most of these studies were based on the most severe and recalcitrant cases: the Kendell et al. (1973) study included only eight cases, and Szmukler (1985) drew his conclusions from the preceding studies. Numerous studies found the traditionally quoted association between upper socioeconomic status and eating disorders to be biased (Garner & Garfinkel, 1980) and empirically unsupported (Dolan et al., 1989; Gard & Freeman, 1996; Pope, Champoux, & Hudson, 1987; Rand & Kulda, 1992). Gard and Freeman (1996) actually found that there is increasing evidence that bulimia is associated with lower socioeconomic classes. Perhaps a plausible explanation for the disparity in findings is that individuals in lower socioeconomic classes do not tend to see the behaviors as aberrant and do not seek mental-health services (Gard & Freeman, 1996). "A mental illness in a given culture may be simply a quantitative increase in behavior which is otherwise accepted as normal by that culture" (Thompson & Schwartz, 1982, p. 48).

The gender issue of anorexia and bulimia is far less debated. All studies agree that the occurrence of these disorders is far less in males than in females. Ratios between these groups range from 1:10 to 1:20 (Barry & Lippmann, 1990; Nudelman, Rosen, & Leitenberg, 1988). Age is another demographic variable to consider. It is widely accepted that eating disorders occur mostly in adolescence and young adulthood. It must be understood that anorexia and bulimia can also occur in children

(Bryant-Waugh & Lask, 1993; Schmidt, Hodes, & Treasure, 1992) and in older adults (Beck, Casper, & Andersen, 1996; Cosford & Arnold, 1992; Hsu & Zimmer, 1988; Woodside & Garfinkel, 1992). Similar to the issue of ethnicity, young age is another stereotypical belief held by many clinicians, doctors, and family members which leads to the under-reporting and under-recognition of eating disorders in later life (Cosford & Arnold, 1992; Jonas et al., 1984). Discussion is appropriate, however, when we consider age of onset for which there is no consensus as to how “onset” can be determined (Woodside & Garfinkel, 1992). Onset always occurs much earlier than detection and can only be determined by hindsight (Hoek, 1993; Woodside & Garfinkel, 1992). An exception is noted when researchers establish age of onset only in terms of overt behaviors rather than in terms of the subtle psychological and attitudinal features that are hallmarks of eating disorders (Hoek, 1993). Even retrospectively, the age of onset is important for issues of diagnosis (APA, 1987; Bryant-Waugh & Kaminski, 1993; Feighner et al., 1972), prognosis (Garner & Garfinkel, 1988; Russell, 1988), etiology (Heavy, Parker, Bhat, Crisp, & Gowers, 1989), and exploration of genetic factors (Woodside & Garfinkel, 1992).

Studies reporting incidence and prevalence rates of anorexia and bulimia have resulted in disparate findings for many of the reasons delineated at the beginning of this section. In spite of the ambiguity, there is a range generally believed to be reflective of the incidence (the number of new cases in the population in a year) and prevalence (actual number of cases in a defined community at a certain point in time) of these eating disorders. The incidence of anorexia in the general population in Western

countries ranges from 1.34 to 8.2 per 1,000 population per year. The range of incidence for bulimia is much larger as it extends from 3.9 to 42 per 1,000 population per year (Bushnell et al., 1990; Hoek, 1993). Hoek (1993) engaged in a comprehensive review of this demographic feature and contends that the incidence rates for anorexia and bulimia are 8.1 and 11.4 per 1,000 population, respectively. Point prevalence rates for young females with anorexia range from .23 % to .58 % with Hoek (1993) settling on .28 %. Point prevalence for young females with bulimia was found to be between .9 % and 1.5 %. Hoek (1993) believes 1 % is the most accurate prevalence rate for bulimia nervosa. He also stresses that these rates have been based on those presenting as bulimics to health-care professionals and may not be representative of the general community (Hoek, 1993). Despite the methodological and definition problems, experts have still concluded that the incidence of eating disorders has increased sharply over the past 3 decades (APA, 1994; Bushnell et al., 1990; Hoek, 1993, 1995; Lucas et al., 1991).

Etiology

The etiology of anorexia and bulimia remains somewhat of an enigma to experts in the field. Rather than determining a single cause, it has been more beneficial to consider etiology in a multifaceted manner (Andersen, Morse, & Santmyer, 1985; Aronson, 1993; Bendfeldt-Zachrisson, 1992; Bruch, 1973; Cooper, 1995; Crowther, Tennenbaum et al., 1992; Emmett, 1985; Hsu, 1990; Humphrey, 1992; Johnson & Connors, 1987; Lacey, Coker, & Birtchnell, 1986; McFarland, 1995; Minuchin et al.,

1978; Strober, 1991; Woodside, 1993). Factors commonly believed to contribute to the manifestation of eating disorders are biology/genetics, family environment, personality features, sociocultural aspects, trauma, and dieting (Agras & Kirkley, 1986; Cooper, 1995; Emmett, 1985; Garfinkel & Garner, 1982; Halmi, 1992; Hsu, 1990; Humphrey, 1992; Johnson & Connors, 1987; Strober, 1992; Williamson et al., 1989). The presence of these factors in combination with one another is what may put an individual at risk for developing an eating disorder (Strober, 1992).

Genetics

There is a consensus among experts in the field that eating disorders aggregate in families. As early as 1860 Louis Victor Marce noted that hereditary aspects were cogent in predisposing an individual to the form of “hypochondriacal insanity” which matches the present-day description of anorexia (Silverman, 1989; Strober, 1991, 1995). The majority of genetic and familial studies undertaken support the familial risk factor although little is understood as to how and why this occurs (Halmi, Struss, & Goldberg, 1978; Hsu, 1990; Strober, 1991). To date, there are only two systematic methods to determine the genetic component of eating-disordered pathology: family-risk studies and twin studies (Hsu, 1990; Woodside, 1993). Other more complex genetic studies of segregation analysis and linkage analysis have been employed to study numerous psychiatric disorders but have not been applied to anorexia nervosa and bulimia nervosa (Woodside, 1993). Family-risk studies can be divided into two distinct methods: the family study method and the family history method. These methods

differ in that the former collects observations about the family from each individual separately. The latter gathers information from one individual who reports on other family members (Woodside, 1993). Regardless of methodology, in psychiatric studies there is always a great deal of subjective and anecdotal information (Woodside, 1993). Twin studies look at monozygotic (MZ) and dyzygotic (DZ) twins. When the concordance of eating disorders in monozygotic twins is significantly greater than in dyzygotic twins, genetic factors as opposed to environmental factors are believed to be at work (Woodside, 1993). In addition to the subjectiveness of psychiatric studies, studies to determine the genetic component to eating disorders have been fraught with other problems. The following is a listing of these problems:

1. Doubtful zygosity in twin studies (Accepted procedure for determining zygosity involves a blood-group analysis and/or placenta examination and the resemblance of physical appearance [Hsu, 1990].)
2. Inadequate diagnostic criteria (as has been noted as problematic in other eating disorder research)
3. Insufficient time lapse for follow-up for the non-anorectic twin or family member
4. No differentiation of restrictors vs. binge eaters
5. No accounting of subclinical forms of eating disorders
6. Reliance on self-selection process (Strober, 1991)
7. Small sample size, especially in twin studies

8. Reliance on family members' perceptions and memories to obtain family history (Halmi, 1992; Hsu, 1990; Strober, 1991).

Despite these research difficulties and the various methodologies and data analysis procedures employed, studies generally concur that there is an elevated occurrence of eating disorders in the family members of eating-disordered probands. Studies using the family-risk methodologies by Theander (1970), Crisp et al. (1980), Hudson, Pope, and Yurgelun-Todd (1983), Gershon, Schreiber, and Hamovit (1984) all demonstrated an increased risk for eating-disordered patients' relatives to develop an eating disorder themselves (Garfinkel, Moldofsky, & Garner, 1980; Halmi, Goldberg, & Eckert, 1977; Strober, 1991). In perhaps the most carefully conducted family study undertaken by Strober, Morrell, Burroughs, Salkin, and Jacobs (1985), it was found that 22% of the anorexics had eating disorders in the family background while only 3% of the psychiatric controls had anorexia in the family background. Similarly, but less dramatically, 12% of the bulimic patients had other family members with eating disorders as opposed to only 4% of the psychiatric controls. Additionally, this same study found that female relatives of an anorexic (9.7%) have a fivefold greater risk for developing an eating disorder compared to psychiatric non-anorectic controls (1.9%) (Strober et al., 1985). Studies also noticed the occurrence of secondary or subclinical eating disorders in relatives of anorexic patients (Crisp et al., 1980; Kalucy, Crisp, & Harding, 1977). Only one family study undertaken by Logue, Crowe, and Bean (1989) failed to find aggregation of anorexia nervosa in families. This may have been due to the small sample size used in the study (Strober, 1991). Generally, the lifetime risk of

anorexia among female relatives of eating-disordered individuals ranges from 1.7% to 2.2%, which represents roughly 3-20 times that in the general population (Strober, 1992).

The results of family studies on patients diagnosed with bulimia nervosa are not as clear nor have there been many studies completed in regard to family aggregation (Strober, 1992). One complicating factor is that some studies reported findings in reference to eating disorders rather than specifying which eating disorder. Strober et al. (1985) looked at both anorexic and bulimic patients and found that 12% of the bulimic patients had eating disorders in the family as compared with 4% of the controls. Kendler et al. (1991), in the most recent study of genetic epidemiology, found that both genetic and family environment present risk factors for developing bulimia. Kassett, Gershon, and Maxwell (1989) used a comprehensive family study approach and found a 9.6% occurrence of bulimia in relatives of bulimic probands as compared to 3.5% occurrence in relatives of normal controls. Additionally, anorexia nervosa was seen in 2.2% of the relatives of bulimic probands (Strober, 1991).

In twin studies, several studies found a differential concordance between monozygotic (MZ) pairs diagnosed with bulimia nervosa and dizygotic (DZ) pairs diagnosed with bulimia. Fichter and Noegel (1990) found an 83% concordance in MZ pairs as opposed to 27% in DZ pairs. Hsu, Chesler, and Santhouse (1990) studied 11 twin pairs over a 3-year period and found a 33% concordance rate in MZ pairs as compared to a 0% concordance rate in DZ pairs. Treasure and Holland (1989) studied 67 twin pair probands and found that there was a high concordance for restricting

anorexics in MZ twins (66%) as opposed to 0% in DZ pairs. The studies clearly support the genetic factor in anorexia. The Treasure and Holland (1989) study also looked at bulimics and concluded that, unlike in anorexia, there is no evidence to support the genetic factor in the development of bulimia nervosa. Concordance for MZ pairs was 35% as compared to 29% in DZ pairs, which is not a statistically significant difference. Treasure and Holland (1989) determined that there is a genetic predisposition in the development of anorexia nervosa and environmental factors in the development of bulimia nervosa. The debate of genetics continues among the researchers. Some say it is not plausible that genetics could be the core etiology due to the apparently “willful character of the symptoms and their connection to prevailing cultural attitudes governing weight and shape” (Strober, 1992, p. 62). Others cite genetic research and epidemiology and conclude that genetics may influence individual differences of food intake regulation and psychopathology which may contribute to nongenetic factors (Strober, 1992). Most experts who have reviewed the research and treated these disorders believe that the most salient contributing factors in eating-disorder psychopathology is heredity and family environment and the interaction with life experiences (Hsu, 1990; Kendler et al., 1991; Strober, 1995).

Family Environment

Experts agree that family environment may influence and even contribute to eating-disordered attitudes and behaviors. What is not as clear is exactly what type of family environment fosters these eating attitudes and behaviors (Esparon & Yellowlees,

1992; Evans & Street, 1995; Humphrey, 1983, 1986; Keck, 1990; Vandereycken, 1995; Winokur, March, & Mendels, 1980). Theories regarding family involvement have been set forth by numerous writers with differing perspectives. Researchers have begun to explore the theoretical perspectives by empirical studies (Garfinkel, Garner, & Rose, 1983; Humphrey, 1988; Humphrey & Villejo, 1992; Kog & Vandereycken, 1985; Olson et al., 1982; Stern, Dixon, Jones, & Lake, 1989). Most eating-disorder studies which look at family environment used self-report instrumentation based on the individual's perception of parental practices and attitudes (Calam, Waller, Slade, & Newton, 1990; Esparon & Yellowlees, 1992; Johnson & Flach, 1985; Kagan & Squires, 1985; Ordman & Kirschenbaum, 1986; Waller, Slade, & Calam, 1990a, 1990b). Additionally, many of the studies relied on retrospective information which can be faulty or distorted (Calam et al., 1990; Esparon & Yellowlees, 1992; Steiger, Liquornik, Chapman, & Hussain, 1991). A few observational studies were undertaken and these studies supported the findings of the self-report studies (Humphrey, 1989; Kog & Vandereycken, 1989; Minuchin et al., 1978; Selvini-Palazzoli, 1974, 1978; Szmuckler, Eisler, & Russell, 1985).

Theories of family involvement in the manifestation and maintenance of eating-disordered symptomatology are diverse. Minuchin et al. (1978) is perhaps the pioneer in describing the family/parental characteristics. They observed that the family needs the patient's symptoms of regression to maintain the homeostasis of the family system. Anorectic families are portrayed as having depressed and anxious members (Stern et al., 1984; Winokur et al., 1980), being enmeshed, overprotective, conflict avoidant,

and triangulated (Minuchin et al., 1975; Minuchin et al., 1978; Selvini-Palazzoli, 1978). Additionally, Selvini-Palazzoli (1978) saw these families as needing to preserve socially superior appearance even in the face of desperation and unhappiness. She saw supreme family loyalty as well as a tendency toward self-sacrifice in the family members. Schwartz, Barrett, and Saba (1985) perceived families of bulimic patients as more appearance conscious, greatly influenced by cultural and social values (beauty, thinness, youth for females), and having more symbolic meanings regarding food than other families. Loyalty to family, emphasis on physical appearance, and rituals with food were also described by Roberto (1986) as well as the emphasis on achievement and success. Like others before them, Root, Fallon, and Friedrich (1986) acknowledged the overemphasis on weight and appearance in eating-disordered families and theoretically supported Minuchin et al. (1978) in describing the subsystems, boundary problems, and the uneven power structures in bulimic families. There are three basic family types set forth by Root et al. (1986): Perfect Family, Overprotective Family, and Chaotic Family. The characteristics of the Perfect Family include: importance of appearances, positive feelings at the expense of not recognizing or dealing with emotions seen as negative, family unity, achievement, and overconcern for the feelings of others. Characteristics of the Overprotective Family include: importance of cohesiveness, a lack of trust of anyone outside the family, the idea that the parents know what is best for their children, and that children are not competent to take care of themselves. Characteristics of the Chaotic Family include: themes of

emotional cut-offs, disengagement, mistrust, coercion, isolation, shifting coalitions, and victimization.

Family messages and family dynamics are salient features in the development of eating-disordered behaviors and attitudes (Root et al., 1986; Russell, Szmukler, Dare, & Eisler, 1987). Humphrey and Stern (1988) see the families of anorexics and bulimics to be quite different. They perceive families of anorexics as idealizing themselves as well as the anorexic daughter while bulimic families use projective identification to ward off their “bad” or undesirable aspects. Lastly, and more generally, issues of separation-individuation due to disturbances in communication, role structure, affect modulation, and boundary diffusion appear frequently in theoretical underpinnings of eating-disordered families (Humphrey, 1992).

All but one study using self-report methodology found a relationship between some aspects of family environment and the development of anorexia or bulimia. Kagan and Squires (1985) studied family cohesion and adaptability using the Family Adaptability and Cohesion Evaluation Scale (Olson, Bell, & Portner, 1978) and found these factors to be unrelated to dieting behavior. Worthy of note is the fact that the actual eating behaviors and attitudes were not clinically evaluated and the subjects were “normal” college females (Waller et al., 1990a). Additionally, dieting behavior is not necessarily synonymous with eating-disordered behaviors. Other studies, which may appear to contradict theoretical hypotheses, concluded that families with anorexic daughters are more positive, more loving, and more supportive than families of normal controls (Humphrey, 1988; Minuchin et al., 1978; Strober, 1981, 1992; Strober,

Salkin, Burroughs, & Morrell, 1982). Authors all concur that a plausible explanation is that anorexics often respond with more denial and more of a need for the family to appear perfect than normals.

Many studies confirmed, at least in part, the theoretical constructs regarding family influence in eating disorder development (Rastam & Gillberg, 1991; Sights & Richards, 1984; Strober & Humphrey, 1987). A deficiency in emotional warmth, nurturance, understanding, and expression of positive feelings was found by Calam et al. (1990); Esparon and Yellowlees (1992); Garfinkel et al. (1983); Humphrey (1988); Steiger et al. (1991); Stern et al. (1989); and Waller et al. (1990b). Parental attempts to thwart the daughter's autonomy and independence were found through clinical observation by Bruch (1973, 1978); and empirically by Crisp (1967), Freeland and Siegel (1990), Humphrey and Villejo (1992), and Selvini-Palazzoli (1974). Perhaps dovetailing with thwarting independence is the characteristic of parental overprotectiveness. In one study, the fathers were singled out as being overprotective (Calam et al., 1990). Other studies did not find a difference between maternal and paternal overprotectiveness but found a general perception of overprotectiveness by both parents (Humphrey, 1988; Minuchin et al., 1978; Selvini-Palazzoli, 1974; Strober, 1981; Strober et al., 1982).

Conflict resolution was studied by Humphrey and Villejo (1992); Kog, Vertommen, and Degroote (1985); Minuchin et al. (1975); Sours (1980); and Stern et al. (1989), and it was found that in families of eating-disordered probands, the ability to resolve conflict was impaired while conflict itself was often high. Studies also

revealed a general lack of cohesiveness among family members (Humphrey & Villejo, 1992; Ordman & Kirschenbaum, 1986; Steiger et al., 1991; Stern et al., 1989; Waller et al., 1990a), and in families which seemed to be close, the closeness was not necessarily seen as helpful or supportive (Minuchin et al., 1975; Minuchin et al., 1978; Ordman & Kirschenbaum, 1986; Steiger et al., 1991). Rigidity, affectionless control, and adaptability were found to be more problematic in homes of eating-disordered subjects than in homes of normal controls (Bruch, 1973, 1978; Calam et al., 1990; Minuchin et al., 1978; Sights & Richards, 1984; Waller et al., 1990b). Ineffective communication (Garfinkel et al., 1983; Steiger et al., 1991), high expectations for achievement and success (Garfinkel et al., 1983; Stern et al., 1989), feelings of rejection (Esparon & Yellowlees, 1992; Humphrey, 1988), and homeostasis (Minuchin et al., 1975; Minuchin et al., 1978; Sours, 1980) are additional parental and family characteristics endorsed by eating-disordered probands and not by normal controls when employing self-report instrumentation.

Few observational studies have been undertaken and those that do exist tend to support the self-report. Hostile (Humphrey, 1989), critical (Szmuckler, Eisler, Gillis, & Hayward, 1985), and highly conflictual environments (Kog & Vandereycken, 1989) were found to be typical of bulimic families. Humphrey (1989) also found families of bulimic subjects to be less supportive and less trusting than families of controls. Humphrey (1989) also compared bulimic families to anorexic families and found that the latter were more affectionate, more neglectful, more confused in communication,

and fathers were more controlling and rigid than was observed in bulimic and noneating-disordered families.

There are other aspects of family which have not been adequately addressed in relation to eating disorders. Birth order (anecdotally special position in family, especially “baby,” has been noted), size of family, characteristics of siblings, educational role of parents/parenting style, and eating disorders in married patients have all been largely ignored, and perhaps hold more keys to understanding these complex illnesses (Vandereycken, 1995).

Personality

Premorbid personality features descriptive of eating-disordered patients are difficult to determine. To look at personality functioning retrospectively is questionable due to the subjectivity of memory and perception. Nevertheless, it has been essential to the understanding of these disorders, and to the preventive and treatment endeavors, to conceptualize the personality style of a young girl at risk for developing an eating disorder (Goldberg et al., 1980; Hsu, 1990; Strober, 1980; Wilson, 1984; Wonderlich, 1995).

It is a commonly held belief that as children and prior to the manifestation of eating-disordered behavior the anorexic was perfectionistic, emotionally overcontrolled (with negative emotions), conscientious, symbiotic in relation to parents, compliant, approval seeking, self-critical, and deficient in her sense of self (Anderson et al., 1985; Bruch, 1973; Garfinkel & Garner, 1982; Halmi, 1974; Hsu, 1990; Kay & Leigh,

1954; King, 1963; Morgan & Russell, 1975; Strober, 1980). These personality features were reported from clinical observations and in anecdotal form. Empirical studies have been undertaken to support or refute these observations. Generally, research has shown these characteristics and variations of these characteristics to be salient. Bruch (1973) and Selvini-Palazzoli (1978), through case studies, and Crisp (1980) and Casper, Hedeker, and McClough (1992), through systematic investigation, studied anorexic patients after diagnosis. These case studies and research studies found anorexics to have a pervasive sense of ineffectiveness, decreased interoceptive awareness, a lack of autonomy, and confusion about affective states. Neuroticism, introversion, obsessionality, self-doubt, and interpersonal anxiety (Ben-Tovim, Marilov, & Crisp, 1979; Garner, Olmsted, & Polivy, 1983; Pillay & Crisp, 1977; Smart, Beumont, & George, 1976; Solyom, Freeman, Thomas, & Miles, 1983; Stonehill & Crisp, 1977; Strober, 1980), perfectionism (Bastiani, Rao, Weltzin, & Kaye, 1995; Bruch, 1973; Strober, 1980, 1981), passive submission, separation-individuation impairment (Bruch, 1973; Sours, 1974; Strober, 1980, 1981), black-white/dichotomous thinking (Andersen, 1986; Bruch, 1978), self-denying, self-critical, stereotypical thinking, and an inability/unwillingness to be flexible (Strober, 1980, 1981) have all been found to describe personality features of the young girl who later develops anorexia nervosa. Geist (1984, 1985) came up with similar findings in regard to excessive compliance, maternal symbiosis, and the subordination of the self (Geist, 1984). Interestingly, Geist (1985) also found that, as a young child, the anorexic may

have retreated from pleasurable activities and sensations due to a paucity of self-regulatory structures which rendered her fearful of losing control.

Many professionals in the field of eating disorders have described the early childhood features of a pre-anorexic as endearing, highly responsible, intellectually superior, conscientious, conforming to rules and regulations, self-controlled--a model child (Hsu, 1990; Strober, 1980). One study by Ranseen and Humphries (1992), however, failed to find the above average intellectual capacity in 100 female eating-disordered patients whom they tested. Instead, they found intellectual performance of the eating-disordered females to follow a normal distribution with the highest number of scores falling in the average range.

In looking at personality features of eating-disordered individuals, researchers have encountered similar problems in definitions and diagnostic criterion as they have in other eating disorder research (Pryor, 1995). Strober (1980) compared bingeing/purging anorexics (probably Bulimia Nervosa today) to restricting anorexics and found many similarities except in four areas: bulimics have decreased self-control (more impulse problems), greater sociability, were more psychologically minded, and were more adaptable and flexible than restricting anorexics. Strober's (1980) study supported earlier studies on this population (Beumont, 1977; Beumont, George, & Smart, 1976; Russell, 1979).

Impulse control problems occurring even before the onset of the illness were found by numerous studies (Casper, Eckert, Halmi, Goldberg, & Davis, 1980; Garfinkel et al., 1980; Garner et al., 1985; Goodsitt, 1983; Lacey, 1982; Mitchell,

Hatsukami, Eckert, & Pyle, 1985; Strober, 1981; Strober et al., 1982). Low self-esteem, anxiety, emotional lability, dysphoria (Edwards & Nagelberg, 1986; Eldredge, Wilson, & Whaley, 1990; Herman & Polivy, 1988; Johnson & Larson, 1982; Johnson & Pure, 1986; Pyle, Mitchell, & Eckert, 1981; Ruderman & Grace, 1987; Ruderman & Grace, 1988; Willmuth, Leitenberg, Rosen, & Cado, 1988), alienation, self-consciousness, lack of assertiveness, inadequate emotional expression (Boskind-Lodahl, 1976; Johnson, Stuckey, Lewis, & Schwartz, 1982; Norman & Herzog, 1984; Pyle et al., 1981), feelings of inadequacy, helplessness, ineffectiveness, guilt, and self-doubt (Connors, Johnson, & Stuckey, 1984; Garfinkel & Garner, 1982; Johnson & Larson, 1982; Love, Ollendick, Johnson, & Schlesinger, 1985) have all been found to depict personality features of the early bulimic child. Irrational and dichotomous thinking style have been noted by numerous researchers (Garner & Bemis, 1985; Johnson & Connors, 1987; Johnson et al., 1982; Kales, 1990; King, Herman, & Polivy, 1987; Mizes, 1988; Orleans & Barnett, 1984; Zotter & Crowther, 1991). Williams, Chamove, and Millar (1990), and Williams et al. (1993) found both anorexics and bulimics to be less assertive than nonpsychiatric controls but not significantly different from psychiatric controls.

Sociocultural Influences

There has been a long-standing debate as to whether or not social and cultural norms are the cause of eating disorders. Most experts agree that, although sociocultural aspects play a role in the manifestation and maintenance of eating

disorders, it is unclear as to the extent of the deleterious influence (King, 1993). Most assuredly, sociocultural aspects are not the sole causative factor of eating disorders (Abramson & Valene, 1991; Bendfeldt-Zachrisson, 1992; Gaillac & Samuel-Lajeunesse, 1992; Garner & Garfinkel, 1985; Halmi, 1992; Johnson & Connors, 1987; Levine & Smolak, 1992; Striegel-Moore, 1993; Waller, Hamilton, & Shaw, 1992). The notion of sociocultural influences is supported in part by default; no biological marker or specific event has been shown to be the primary cause of eating disorders (and we are a society geared toward cause and effect). Instead, biology, personality, psychosocial stressors, and family environment are both predisposing and precipitating factors but no singular aspect has been shown to be causative (Cooper, 1995; Halmi, 1992; McFarland, 1995; Woodside, 1993).

When examining the issue of body size and fasting/restricting food consumption from historic times to modern times, there has been a change in motivation for engaging in this behavior. Fasting was undertaken in prior centuries as a purification of the soul and as a way to find God. The major concern was for the development of the inner self (Bell, 1985; MacCulloch, 1912). Modern-day women, on the other hand, undertake diets/restricting of food in order to achieve the ideal body size, shape, and weight as proscribed by society and made ubiquitous by the media. The major concern is to gain approval of the public self (Bordo, 1990; Jourard & Secord, 1955; Murray, Touyz, & Beumont, 1995; Wolf, 1990).

The culture of the last half of the 20th century has been riddled with an obsession with thinness (Brown, Cross, & Nelson, 1990; Dickstein, 1989; Jourard & Secord,

1955; Nasser, 1988; Roden et al., 1985; Shaw & Waller, 1995; Schwartz, Thompson, & Johnson, 1985; Striegel-Moore, Silberstein, & Roden, 1986; Wolf, 1990). In the 1978 Nielson survey, it was found that 56% of women ages 24-54 dieted and 76% of the women who dieted did so for cosmetic reasons rather than for health. Additionally, the culture's diet fetish was evident in the plethora of diet and weight-related articles appearing in women's magazines. Garner, Garfinkel, Schwartz, and Thompson (1980) found the mean number of diet-related articles to be 17.1 from 1959 to 1969 and 29.6 from 1969 to 1979. While Elizabeth Taylor was idolized as the epitome of beauty in the 1950s and 1960s, she was replaced in the 1970s by Twiggy and her prepubescent body (Schwartz, Thompson, et al., 1985; Wolf, 1990). Garner et al. (1980) looked at the cultural norms of ideal weight across a 20-year span from 1959 through 1978 as those norms related to the reality of the female population. Women were shown prototypes of feminine beauty (Playboy Magazine, Playmates and Miss America). As the 20 years unfolded, women selected increasingly slimmer women as ideal when compared to women in general. Interestingly, as the ideal female body became slimmer, the real female body became heavier, and society's revulsion of obesity took hold (Braddon, Rodgers, Wadsworth, & Davies, 1986; Goldblatt, Moore, & Stunkard, 1965; Lawrence, 1987; Silverstone, Gordon, & Stunkard, 1969; Wooley & Wooley, 1979).

The eating-disordered woman's self-worth is linked to body size and shape (Brownell & Fairburn, 1995; Casper, Halmi, Goldberg, Eckert, & Davis, 1979; Fairburn & Garner, 1986; Murray et al., 1995; Shaw & Waller, 1995). She is often

hyperobservant of the bodies of female counterparts and experiences a decrease in self-esteem when exposed to media representations of the ideal female body (Fallon & Rosen, 1985; Irving, 1990; Jourard & Secord, 1955; Richins, 1991; Wolf, 1990). In a study done with university females, weight-preoccupied females perceived the campus environment as placing significantly more emphasis on physical appearance and weight than did the non-weight-preoccupied females (Connor-Greene, Striegel-Moore, & Cronan, 1994). Murray et al. (1995) studied females diagnosed with eating disorders as the clinical sample and a group of females and a group of males in the workplace as control groups. Results showed that female patients were more likely to compare their body size and shape with those of other women than were female controls. They were also more likely to be affected by comments made by others regarding their body and eating. Female controls were also slightly more likely to state that they were influenced by same-sex comments on body size and were more comparative with other females than were the male controls. Generally, this study suggested that females are more likely to compare their body with other same-sex individuals than are males, to feel that their body is noticed by others, to have their body criticized by others, and to be in an environment where weight/diet/appearance are discussed. Additionally, females were more distressed by the evaluation of others which impacted self-esteem than were the males. Still other studies point to the social climate of thinness, sex-role issues, and the competitiveness of eating-disordered females as sociocultural factors in the development of eating-disorders (Brown et al., 1990; Dickstein, 1989; Roden et al., 1985; Striegel-Moore, Silberstein, et al., 1986).

Along with the issue of thinness is the complex construct of body image.

Although the issue of body image is difficult to measure due to lack of consensus regarding definition, i.e., whole body versus parts of the body, most experts agree that body-image disturbances are common in eating disorders (APA, 1994; Bruch, 1962; Cooper & Fairburn, 1993; Fairburn, Cooper, & Cooper, 1986; Hamilton & Waller, 1993; Slade & Russell, 1973). Still others have found that there is no set body-image disturbance in anorexics and bulimics (Hsu & Sobkiewicz, 1991; Myers & Biocca, 1992; Slade & Brodie, 1994). It is important to note that these latter researchers were hoping to find a specific body image disturbance whereas most research has been geared to more general disturbances of the way in which the patients experience their bodies.

The changing role of women has also been a sociocultural aspect that has been targeted for its role in the development of eating disorders. Barnett (1986), Bemporad, Ratey, O'Driscoll, & Daehler (1988), Kaplan (1991), and Wooley (1991) agree that women's role has changed dramatically in the last 4 decades. These changes, and the responsibilities and fears they engender, have filtered down to young girls. Freedom to pursue careers and intellectual endeavors and freedom to explore sexual desires have weighed heavily on females in general. These same freedoms to the at-risk female may be terrifying due to her "good little girl" status and her morality based on obedience and submission (Kaplan, 1991; Wooley, 1991). The emerging equality with men may also contribute to eating disorders with at-risk individuals. The pressure to compete in the male world may propel a female into obtaining a body that symbolizes androgyny,

athleticism, and non-reproductive sexuality (Bennett & Gurin, 1982; Orbach, 1978). Sours (1980) contends that anorexia is a symbol of cultural forces which pushes a vulnerable child to succeed and master or control her environment. Chernin (1981) points up that current American culture admires the discipline and aestheticism of the anorexic thereby making the pursuit of anorexia a worthwhile endeavor.

In the sociocultural arena of the late 20th century, to be a successful “self” requires a successful body which involves employing cosmeticians, dieticians, plastic surgeons, exercise physiologists, exercise equipment, special diet foods, etc. (Brumberg, 1988; Turner, 1984). The appeal to consumerism and acceptable hedonism in the face of a strong work ethic and virtue in stifling gratification creates a social contradiction which fosters the confusion and complexity in eating disorders (Bordo, 1990; King, 1993).

The question remains, If sociocultural factors influence eating-disordered attitudes and behaviors, why are all women not susceptible to the messages to the extent that they develop anorexia or bulimia?

Dieting

The role of dieting as a trigger in the development of eating disorders has been well documented (Abraham & Beumont, 1982; Agras & Kirkley, 1986; Davis, Freeman, & Garner, 1988; Dwyer, 1985; Fairburn & Cooper, 1984; Garfinkel & Garner, 1982; Halmi, 1974; Heatherton & Polivy, 1992; Johnson & Connors, 1987; Polivy & Herman, 1985, 1987, 1995; Polivy, Herman, Olmsted, & Jazwinski, 1984;

Rosen, Tacy, & Howell, 1990; Russell, 1979; Sohlberg, 1991; Vanderheyden, Fekken, & Boland, 1988; Williamson, 1990; Wilson, 1995). It is important to note, however, that not all individuals who diet become anorexics or bulimics (Herman & Polivy, 1988; Polivy, 1989; Polivy & Herman, 1985, 1987; Ruderman & Grace, 1987, 1988). Dieting involves making a conscious decision that somehow life would improve if weight/body size was decreased. When this desire to lose weight (whether the individual is overweight or not) is coupled with other psychological disturbances such as lack of self-worth, depression, interpersonal distrust, feelings of ineffectiveness, fears of maturing, familial and interpersonal difficulties, and low self-esteem, an eating-disorder may be the consequence. Dieting behavior, as well as other eating-disordered behaviors and attitudes, occurs on a continuum rather than on an all-or-nothing polarity (Johnson-Sabine, Wood, Patton, Mann, & Wakeling, 1988; Szmukler, Eisler, Gillis, et al., 1985). Several studies have provided evidence that dieting behavior in conjunction with personality factors may lead directly to the onset of eating disorders (Johnson-Sabine et al., 1988; Patton, 1988; Szmukler, Eisler, Gillis, et al., 1985). Dieting is one of the salient contributing factors in a susceptible individual (Dwyer, 1985; Hsu, 1990; Polivy & Herman, 1995; Wilson, 1995) but it is not sufficient, in and of itself, to be the cause of anorexia nervosa and bulimia.

Trauma and Loss

Experts have found that one or more psychologically traumatic events have often been a precursor to the manifestation of eating-disordered attitudes and behaviors

(Chewning-Korpach, 1993; Connors & Morse, 1993; Hsu, 1990; Oppenheimer, Howells, Palmer, & Chaloner, 1983; Palmer, 1995; Rice, 1996; Root & Fallon, 1988; Rorty & Yager, 1993; Rorty, Yager, & Rossotto, 1994; Schwartz & Gay, 1993; Schwartz et al., 1985; Strober, 1984; van der Kolk & Fisler, 1994; Vanderlinden, Vandereycken, van Dyck, & Vertommen, 1993; Waller, Ruddock, & Pitts, 1993; Wooley, 1993; Zerbe, 1993, 1995). Sometimes the event is being teased about being fat. It may also have to do with interpersonal conflict, family difficulties, personal illness, sense of personal failure, death or illness in a family member, or separation from the family environment (Crisp et al., 1980; Dally, 1969; Morgan & Russell, 1975; Sohlberg, 1991; Theander, 1970). Traumatic events may have occurred during childhood, often in the form of sexual abuse (Connors & Morse, 1993; Hall, Tice, Beresford, Wooley, & Hall, 1989; Kearney-Cooke, 1988; Kearney-Cooke & Striegel-Moore, 1994; Kinzl, Traweger, Geunther, & Biebl, 1994; Miller, 1993; Oppenheimer et al., 1983; Palmer, Oppenheimer, Dignon, Chaloner, & Howells, 1990; Pribor & Dinwiddie, 1992; Rice, 1996; Schwartz & Gay, 1993; Sloan & Leichner, 1986; Waller, 1993; Zerbe, 1993, 1995), or more recently to the onset of the eating-disordered symptoms (Kalucy et al., 1977).

The issue of early childhood sexual abuse as related to later incidence of eating disorders remains controversial. Researchers have argued over what constitutes sexual abuse and what methodology to employ (Pope & Hudson, 1992), as well as whether to differentiate between the subgroups of eating-disordered categorization, i.e., anorexia with purging, bulimia with history of anorexia, bulimia purging type, eating disorder

not otherwise specified. A study involving only bulimics, a narrowly defined definition of sexual abuse, and interview procedure, found only 5.4% probands reporting childhood sexual abuse (Lacey, 1990). Two studies reported a 69% rate of sexual abuse in the eating-disordered sample when subjects were diagnosed with any of the full spectrum of eating disorders, using a broad definition of sexual abuse, and employing self-report methodology (Folsom, Krahn, & Canum, 1989; Folsom, Krahn, Nairn, & Gold, 1993). It does appear that sexual abuse is not unique to eating-disordered individuals but rather is common in other psychiatric patients as well (Briere & Runtz, 1988; Folsom et al., 1993; Palmer, Chaloner, & Openheimer, 1992; Pribor & Dinwiddie, 1992; Vize & Cooper, 1995). It seems important that mental-health professionals acknowledge the occurrence of sexual abuse in some eating-disordered patients in order to assess the nature and extent of the interactions of these etiological factors.

Physical Symptoms

Eating disorders are thought to be largely psychological in nature but result in a complex array of physical symptomatology which may in fact serve to propagate the disorder (Mitchell, 1986a, 1986b). The most obvious physical symptom of anorexia nervosa is emaciation (APA, 1980, 1987, 1994; Emmett, 1985; Halmi, 1992; Hsu, 1990; Kaplan & Garfinkel, 1993; Siegel, Brisman, & Weinshel, 1988; Spack, 1985). Other physical symptoms include amenorrhea, dry skin which sometimes has a yellowish tinge, cold intolerance, inability to maintain warmth in extremities, lanugo

over face, trunk, and extremities, constipation, abdominal bloating, peripheral edema, dental problems (APA, 1994; Hsu, 1990; Kaplan & Garfinkel, 1993; Brownell & Foreyt, 1986), and brittle hair and nails. Medical aspects include metabolic disturbances, gastrointestinal complications, cardiovascular abnormalities, fluid and electrolyte imbalances, dental problems, hypotension, hypothermia, hemotological changes, and endocrine complications (APA, 1994; Brownell & Foreyt, 1986; Emmett, 1985; Fairburn, 1995; Goldbloom & Kennedy, 1995; Kaplan & Garfinkel, 1993; Mitchell, Pomeroy, & Huber, 1988). The difficulty for therapists is that anorexia begins long before the emaciation, amenorrhea, and other medical complications are evident. Clinicians need to be cognizant of the subtleties of these disorders to identify problems sooner.

Bulimia is often difficult to detect in its early stages due to the lack of the physical evidence of emaciation (Johnson & Connors, 1987; Mitchell, 1995; Pike, Loeb, & Walsh, 1995; Spack, 1985). Bulimics are typically within normal weight range, perhaps slightly overweight or slightly underweight (APA, 1987, 1994; Fairburn, 1984; Johnson & Connors, 1987; Pike et al., 1995). Detection may occur through routine dental examination as recurrent vomiting eventually leads to erosion of tooth enamel and increased incidence of cavities. Additionally, some individuals experience swelling of the parotid glands, broken blood vessels in the eyes, and calluses on the back of the hand used to induce vomiting (APA, 1994; Cooper & Fairburn, 1983; Hsu, 1990; Mitchell, 1995; Pike et al., 1995; Siegel et al., 1988; Spack, 1985; Zwann & Mitchell, 1993). Occasionally, an individual may have an

esophageal rupture (APA, 1994). Menstrual irregularities, electrolyte disturbances, gastrointestinal complications, cardiovascular effects, neurological abnormalities secondary to electrolyte disturbances, and metabolic abnormalities may be evident upon examination and laboratory procedures (APA, 1994; Hsu, 1990; Mitchell, 1986b, 1995; Pike et al., 1995; Spack, 1985; Zwann & Mitchell, 1993). Additionally, various purging modalities (e.g., laxative abuse, diuretic abuse, overexercise, diet pills, ipecac syrup) may result in physical and/or psychological addictions which complicate the treatment process (Zwann & Mitchell, 1993).

Behavioral Symptoms

Even before the physical manifestations of anorexia nervosa and bulimia nervosa are apparent, the behavioral signs are noticeable. Initially, both anorexics and bulimics typically complain about being fat and begin dieting or restricting certain types of food to remedy their fatness (APA, 1994; Beumont, 1995; Hsu, 1990; Siegel et al., 1988). They often talk about and read about food, food preparations, diets, and appearance. Anorexics will institute strange rituals around food, e.g., cutting food up into small pieces, moving food around on plate or playing with the food, counting bites of food or number of times chewing, catering meals for others while refusing to eat (Beumont, 1995; Siegel et al., 1988), only eating certain combinations of foods, etc. Anorexics may avoid situations where food will be present (Beumont, 1995; Siegel et al., 1988), they may bring their own food to a dinner party or gathering, or they may claim that they have already eaten and are not hungry. Some anorexics also have episodes of

binge eating, purging with laxatives (Beumont, 1995; Pryor, Wiederman, & McGilley, 1996), diuretics, enemas, vomiting, or exercise (APA, 1994; Beumont, 1995; Siegel et al., 1988), and/or chewing and spitting food (McCutcheon & Nolan, 1995). Other behaviors in which anorexics often engage are nonfood related and include frequent weighing (several times daily); complaints of being globally fat or being fat in specific areas of the body while being obviously thin or emaciated, wearing layers of clothing due to hypothermia and to disguise weight loss; obsessive need to assess body size and shape in mirror or with tape measure; and long, regimented exercise routines, or general overactivity (APA, 1994; Beumont, 1995; Hsu, 1990). Anxiety and anger outbursts may occur when these rituals and routines are interrupted (Beumont, 1995) and the anorexic will go to any length to restore her sense of safety and homeostasis.

While the anorexic may be very proud of her ability to restrict/deny her food intake, the bulimic is very secretive in her behavior of binge eating and purging by way of vomiting, laxative, or diuretic abuse. Rarely does a bulimic binge in public or among friends and family (APA, 1994; Beumont, 1995; Fairburn et al., 1986; Pike et al., 1995; Siegel et al., 1988). Vast quantities of missing food are often the first outward signal that a bulimic is in the family's or household's midst (Siegel et al., 1988). Mandatory visits to the bathroom after eating are typical for bulimics who self-induce vomiting and who abuse laxatives (Fairburn et al., 1986; Mitchell & Boutacoff, 1986; Pike et al., 1995; Siegel et al., 1988). Other bulimics, especially during later stages of the illness, may leave vomitus in plastic bags (Beumont, 1995), between the pages of a magazine, or in heating vents in their rooms (Clinical account). They may

also engage in chewing and spitting out food (McCutcheon & Nolan, 1995). The bulimic may hide and sneak food, make frequent stops at fast-food restaurants, steal food from grocery stores, and/or avoid public eating (Bulik, Beidel, Duchmann, Weltzin, & Kaye, 1991; Pike et al., 1995; Siegel et al., 1988). Voracious spending of money and shoplifting nonfood items are also frequently seen in the bulimic's behavior (Casper et al., 1980; Fairburn et al., 1986; Mitchell, Flectcher, Gibeau, Pyle, & Eckert, 1992; Rowston & Lacey, 1992) as is substance abuse (APA, 1994; Bulik, 1987b; Bulik, Sullivan, et al., 1992; Casper et al., 1980; Earleywine, Finn, & Peterson, 1992; Fairburn et al., 1986; Goldbloom, 1993; Holderness, Brooks-Gunn, & Warren, 1994; Hudson, Weiss, Pope, McElroy, & Mirin, 1992; Peveler & Fairburn, 1990; Pyle et al., 1981; Selby & Moreno, 1995). During the course of the illness, the bulimic's weight often fluctuates by 10-15 pounds (Beumont, 1995; Fairburn et al., 1986) necessitating several sizes of clothes in her closet. Similar to the anorexic, the bulimic may overexercise, obsess about food, diets, and weight, and express excessive fear of being or becoming fat (APA, 1994; Beumont, 1995; Fairburn et al., 1986; Siegel et al., 1988).

Psychological Symptoms

The psychological symptoms of individuals at risk or diagnosed with eating disorders are multifaceted, complex, and diverse (Bulik, Sullivan, Weltzin, & Kaye, 1995; Cooper, 1995; Cooper & Fairburn, 1993; Crisp, 1965, 1983; McFarland, 1995; Smith & Steiner, 1992; Strober, 1983; Williamson et al., 1995). There remains the unanswered question as to whether the psychological features predated or postdated the

onset of the eating disorder, or whether they are a direct consequence of the malnutrition. As with any other mental-health issue, there are also tremendous individual differences even within the same diagnostic group (Beumont, 1995; Crisp, 1983; Garfinkel et al., 1980; Hsu, 1990; Stunkard, 1993). Anorexia nervosa and bulimia nervosa may also weave in and out of each other over time rendering distinct and unique features of each impossible to define (Cooper, 1995; Cooper & Fairburn, 1993; Garfinkel et al., 1980; Garner, 1993; Hsu, 1988, 1990; Kendler et al., 1991; Russell, 1985). An additional complication is understanding and taking into account the dynamic life force that anorexia and bulimia take on during the course of the disease (Beumont, 1995; Cooper, 1995; Russell, 1985). The psychological symptoms during the early stages of illness may or may not be present during later stages and/or may be replaced by other features (Beumont, 1995). A frequently seen example would be the adolescent female who is described as submissive, compliant, and sweet but who becomes rebellious, self-righteous (virtuous), and intolerant of others' imperfections as the disease progresses. Another example is the anorexic who exhibits an abundance of physical and psychological energy in the early stages but who gives way to lethargy and depression in later stages of anorexia. It is my opinion that the studies in current literature do not take this nonstatic nature of eating disorders seriously, which makes documenting the psychological features more difficult. In this section a broad spectrum of psychological symptoms will be discussed. Some of these symptoms can become severe and develop into comorbid illnesses and are discussed in the next section.

Looking at the DSM-III (APA, 1980; see Appendix A), DSMIII-R (APA, 1987;

see Appendix B), and DSM-IV (APA, 1994; see definitions in chapter 1) criteria is a logical place to begin discussion on the psychological features of anorexia nervosa and bulimia nervosa. Both eating disorders and subtypes (Bunnell, Shenker, Nussbaum, Jacobson, & Cooper, 1990; Casper, Offer, & Ostrov, 1981; Garner, Olmsted, & Garfinkel, 1983) involve the aspect of self-evaluation being inordinately influenced by body size and shape and fear of being fat (Buvat-Herbaut, Hebbinckuys, Lemaire, & Buvat, 1983; Fairburn, 1988; Freeman, Thomas, Solyom, Koopman, 1985). Numerous studies have been undertaken to support the diagnostic criterion. Cooper and Fairburn (1987), Eldredge et al. (1990), Fairburn and Garner (1986), and Streigel-Moore, McAvay, and Rodin (1986) found that in eating-disordered subjects' self-worth was based on weight and perceived body size to a greater extent than normals. Parallel to weight being the main criterion for self-worth is low self-esteem found in the eating-disordered population and documented anecdotally (Bruch, 1973, 1978; Nagelberg, Hale, & Ware, 1984; Selvini-Palazzoli, 1974) and empirically (Garner & Garner, 1986; Taylor & Cooper, 1986; Thompson & Thompson, 1986; and Williams et al., 1993). Eating-disordered females tend to focus on the imperfect areas of their bodies. They may determine their entire body as being fat or specific body parts (thighs, hips, buttocks, abdomen, breasts) as fat and imperfect regardless of actual size (APA, 1987, 1994; Garner & Bemis, 1985; Phelan, 1987; Taylor & Cooper, 1986; Thompson & Thompson, 1986). Striving for perfection in all areas of their lives, eating-disordered individuals detest the perceived imperfections about their bodies (Striegel-Moore et al.,

1986) and exhibit varying degrees of body image distortion (APA, 1987, 1994; Taylor & Cooper, 1986; Thompson & Thompson, 1986).

Mood disorders in the form of clinical depression or simply depressive symptomatology often accompany eating disorders. There has been a plethora of research to document this phenomenon (Braun, Sunday, & Halmi, 1994; Breaux & Moreno, 1994; Fornari et al., 1992; Herzog, 1984; Kennedy et al., 1994; Laesle, Wittchen, Fichter, & Pirke, 1989; Norman & Herzog, 1983; Rebert, Stanton, & Schwartz, 1991; Rosen, Murkowsky, Steckler, & Skolnick, 1989; Smith & Steiner, 1992; Strober & Katz, 1987; Williamson, Kelley, Davis, Ruggiero, & Blouin, 1985; Wilson & Lindholm, 1987), and it has been concluded that depression and anxiety are the most common pathological affective states of eating-disordered individuals (Fornari et al., 1992; Swift, Andrews, & Barklage, 1986). Depressive features may precede the eating-disordered behavior and/or be the consequence of under/malnutrition.

Depression may also contribute to the recalcitrant nature and high recidivism in eating disorder treatment. Features of anxiety and anxiety disorders are prevalent in eating-disordered patients as well (Braun et al., 1994; Bulik et al., 1991; Hudson, Harrison, & Yurgelun-Todd, 1983; Piran, Kennedy, Garfinkel, & Owens, 1985; Piran, Lerner, Garfinkel, Kennedy, & Brouillette, 1988; Rothenberg, 1988; Walsh, Roose, Glassman, Gladis, & Sadik, 1985; Williamson et al., 1985) and may extend beyond the anxieties related to negative scrutiny of body size and shape (Bulik et al., 1991) and eating/food issues (Buree, Papageorgis, & Hare, 1990).

The issue of ineffectiveness may be a variant of the depressive state as eating-

disordered-individuals perceive themselves as being unable to impact change in their lives or their behaviors (Bruch, 1973, Garner, 1990; Garner et al., 1983). Another term to represent this domain is locus of control. Studies have shown that eating-disordered females experience a sense of ineffectiveness, or an external locus of control, in multiple aspects of their lives, not just with food and weight (Bruch, 1978; Garfinkel, 1981; Hood, Moore, & Garner, 1982; McLaughlin, Karp, & Herzog, 1985; Rogers & Petrie, 1996; Selvini-Palazzoli, 1974; Strober, 1982; Wagner, Halmi, & Maguire, 1987; Weiss & Ebert, 1983; Williams et al., 1993). Hood et al. (1982) and Strober (1982) both found that the lower the sense of ineffectiveness, the higher the psychopathology. Additionally, when anorexics were compared to depressed, conduct disordered (Strober, 1982), and bulimics (Wagner et al., 1987), it was found that restricting anorexics experienced the least sense of ineffectiveness with food but not necessarily with other areas of life. Impaired impulse control has been noted by researchers and eating-disorder specialists (Casper et al., 1992; Fahey & Eisler, 1993; Hatsukami, Owen, Pyle, & Mitchell, 1982; Jones & Edelman, 1989; Lacey & Evans, 1986; Pyle et al., 1981; Strober, 1981, 1983; Williamson et al., 1985). Kaye, Bastiani, and Moss (1995) and Sohlberg (1991) reported that impulse control in anorexics differs from impulse control in bulimics. Additionally, Sohlberg (1991) suggested that anorexics overcontrol their impulses in regard to otherwise pleasurable activities, specifically eating. Bulimics, on the other hand, display a lack of impulse control in regard to pleasurable activities (e.g., eating, shoplifting, alcohol/drug use, and sexual activity). This distinction is intuitive and may have biochemical as well as

behavioral aspects (Sohlberg, 1991). Other studies measuring cognitive and behavioral aspects of impulse control and obsessive-compulsive tendencies in eating disorders as opposed to normal controls resulted in restricting anorexics scoring in the direction of hypercontrol as compared to bulimics or normals, and bulimics scoring in the direction of hypocontrol as compared to anorexics and normals (Toner, Garfinkel, & Garner, 1987; Wonderlich, Swift, Slotnick, & Goodman, 1990; Woznica, 1990).

Along with the issue of impaired impulse control are the findings that eating-disordered females experience higher rates of anger attacks and aggression than controls (Breux & Moreno, 1994; Brunner, Maloney, Daniels, Mays, & Farrell, 1989; Fava, Anderson, & Rosenbaum, 1990; Fava, Rappe, West, & Herzog, 1995; Hatsukami et al., 1982; Kagan & Squires, 1984; Rebert et al., 1991) due, at least in part, to serotonergic dysregulation (Coccaro et al., 1989; Kaye & Weltzin, 1991).

Alexithymia, restrained emotional expression and the inability to identify and distinguish between emotional states (Sifneos, 1973), has been noted by Bagby, Taylor, and Atkinson (1988), Bourke, Taylor, Parker, and Bagby (1992), Cochrane, Brewerton, Wilson, and Hodges (1993), Schmidt, Jiwany, and Treasure (1993), and Troop, Schmidt, and Treasure (1995). In each of these studies the eating-disordered groups (anorexics, bulimics, and anorexics with bulimia) scored higher on the alexithymia scales than did controls. Other authors have found that anorexics were no more likely to be restrained in their emotional expression and impaired in identification of emotional states than controls (Engel & Meier, 1988; Pierloot, Houben, & Acke, 1988). The discrepancy may be accounted for by the instrumentation used in the

studies. The latter studies, which did not find evidence of alexithymia in the eating-disordered groups, used speech samples, personality inventories, and projective measures as opposed to the Taylor Alexithymia Scale, which has been shown to be a valid and reliable measure of alexithymia (Taylor, Bagby, Ryan, & Parker, 1990) and superior to other self-report instruments (Bagby et al., 1988). Self-directed hostility in the form of high levels of self-criticism, guilt, and shame has been documented anecdotally (Bruch, 1978; Selvini-Palazzoli, 1974) and has been empirically supported by research studies (Goodsitt, 1985; Leon, Carroll, Chernyk, & Finn, 1985; Rampling, 1985; Steiger, Goldstein, Mongraine, & VanderFeen, 1990; Teusch, 1988; Tiller, Schmidt, Ali, & Treasure, 1995; Williams et al., 1993; Zerbe, 1995). This same characteristic of self-directed hostility in eating-disordered females was not supported in a study undertaken by Rogers and Petrie (1996). In this study, which used The Hostility and Direction of Hostility Questionnaire (Caine, Foulds, & Hope, 1967) and consists of 51 selected MMPI items, there appeared to be no relationship between eating-disordered symptomatology and self-directed hostility. One explanation for the contradiction may be due to the sample studied, i.e., female undergraduates exhibiting subclinical signs of eating disorders as opposed to females with diagnosable eating disorders. Self-sacrifice or asceticism was also found to be more pervasive in eating-disordered subjects than in non-eating-disordered subjects (Bell, 1985; Bemporad et al., 1988; Casper, 1983; Garner, 1990; Garner et al., 1983; Rampling, 1985).

Dissociative features have been noted by Gleaves and Eberenz (1993, 1995), Schumaker, Warren, Schreiber, and Johnson (1994), Torem (1986), and Vanderlinden

et al. (1993). Eating-disordered probands scored significantly higher on dissociation scales than did non-eating-disordered probands, and the severity of dissociative symptoms was associated with depression in the eating-disordered groups (Gleaves & Eberenz, 1995).

One of the features that makes eating disorders difficult to diagnose in early stages, in order to provide effective treatment and to accurately study, is that of denial and distortion (Pryor, Johnson, Wiederman, & Boswell, 1995; Vitousek, Daly, & Heiser, 1991). The prominence of denial in eating-disordered individuals has been largely noted in descriptive accounts (Halmi, 1974). In some studies, denial and distortion have been inferred by looking at the validity scales of personality inventories (Crisp, Hsu, & Stonehill, 1979; Gomez & Dally, 1980; Stonehill & Crisp, 1977; Vandereycken & Vanderlinden, 1983). Crisp (1967) considered anorexics' reluctance to self-reveal to be a typical characteristic of this population. In one study, self-reporting measures discriminated between anorexics who were "admitters" and "deniers." On the MMPI, admitters showed greater elevation on the neurotic and psychotic scales than the deniers. Deniers tended to appear more self-defended and socially extraverted than admitters (Vandereycken & Vanderlinden, 1983).

A greatly overlooked and underreported feature of anorexia and bulimia is psychosexual dysfunction (Buvat-Herbaut et al., 1983; Leon, Lucas, Colligan, Ferdinande, & Kamp, 1985; Morgan, Wiederman, & Pryor, 1995; Renshaw, 1990; Simpson & Ramberg, 1992; Zerbe, 1995). Sexual disturbances of varying forms may accompany eating disorders (Abraham & Beumont, 1981; Hsu, 1990; Leon, Lucas, et

al., 1985; Renshaw, 1990). Sexual inhibitions have been described by Bruch (1973, 1978) and Selvini-Palazzoli (1978) and are assumed to be due to the patient's fears of growing up and becoming a woman. The anorexic's denial of pleasurable activities and self-sacrifice (my clinical observations), body shame and disgust (Zerbe, 1995), fears of sexual responsiveness (Crisp, 1980; Sours, 1980), and guilt (Zerbe, 1992) may also contribute to psychosexual dysfunction.

Co-morbidity

It is well known that eating disorders do not appear in isolation from other psychological illnesses and issues. General psychological features (i.e., depression, anxiety, self-esteem, denial, perceived control, ineffectiveness, rigidity, alexithymia, body-image distortion, perfectionism, impulse control, self-sacrifice, locus of control, self-directed hostility, anger, shame and guilt, and dissociative features) were addressed in the preceding section. These Axis I syndromes may either predate the eating disorder (Brewerton, Lydiard, Ballenger, & Herzog, 1993; Cantwell, Sturzenberger, Burroughs, Salkin, & Green, 1977; Toner, Garfinkel, & Garner, 1988) or may develop after the onset of the eating disorder (Halmi et al., 1991). This section looks at co-morbid diagnoses, specifically personality disorders (Axis II), substance abuse/dependence, major depressive disorder, and obsessive compulsive disorder.

Personality disorders have long been thought to co-exist with eating disorders in many patients. The research, however, is fraught with inconsistencies due to the methodological discrepancies (Kennedy, McVey, & Katz, 1990; Pope & Hudson,

1989), lack of consensus regarding definitions, and differences in DSM criteria over the years (Braun et al., 1994; Herzog, Keller, Lavori, Kenny, & Sacks, 1992; Piran, Lerner, et al., 1988; Pope & Hudson, 1989). Prevalence of at least one personality disorder in bulimic patients ranges from 77% (Powers, Covert, Brightwell, & Stevens, 1988) to as low as none (Frankel et al., 1988). Many studies found prevalence rates between these extremes (Ames-Frankel et al., 1992; Gartner, Marcus, Halmi, & Loranger, 1989; Herzog et al., 1992; Levin & Hyler, 1986; Piran, Kennedy, Garfinkel, & Whynot, 1988; Pope, Frankenburg, Hudson, Jonas, & Yurgelun-Todd, 1987; Reich, Nduaguba, & Yates, 1988; Rossiter, Agras, Telch, & Schneider, 1993; Schmidt & Telch, 1990; Wonderlich et al., 1990). Similar discrepancies were found when studying personality disorders in anorexic patients. Prevalence rates of 80%, 33%, and 22% were found by Wonderlich et al. (1990), Gartner et al. (1989), and Herzog et al. (1992) respectively. When combining all eating-disorder patient groups, Kennedy et al. (1990) used a self-report measure and found a prevalence rate of 93% for personality disorders upon admission to in-patient treatment and 79% upon discharge. Norman, Blais, and Herzog (1993) used the Millon Clinical Multiaxial Inventory (MCMI) to determine prevalence of personality disorders in eating-disordered patients and found that 84% of all subjects fit the criteria for having an Axis II disorder. These studies, reviewed by Swift and Wonderlich (1988), confirmed a high rate of personality disorders in anorexia and bulimia.

The most commonly found personality disorder in the eating-disordered population is Borderline Personality Disorder (Herzog et al., 1992; Kennedy et al.,

1990; Sansone, Fine, Seufferer, & Bovenzi, 1989). Borderline Personality Disorder was found in subjects with bulimia nervosa by Gvirtzman, Roy-Byrne, and Yager (1983), Levin and Hyler (1986), and Piran, Lerner, et al. (1988), whereas Pope et al. (1987) did not find an association between bulimia nervosa and Borderline Personality Disorder. This inconsistency may be due to the fact that some of the features of Borderline Personality Disorder may be state dependent rather than stable traits and may remit with treatment (Garner et al., 1990).

Obsessive-Compulsive Disorder (not to be confused with Obsessive-Compulsive Personality Disorder) has been noted in eating-disordered patients for decades. Palmer and Jones (1939), Rahman, Richardson, and Ripley (1939), and Meyer and Weinroth (1957) described obsessive-compulsive behaviors such as excessive orderliness, obsessive fear of dying, counting compulsions, and compulsive eating rituals in eating-disordered patients. More recently, research has revived the notion that there is a relationship between Obsessive-Compulsive Disorder and eating disorders (Bulik, Beidel, Dutchman, Weltzin, & Kaye, 1992; Rothenburg, 1986, 1988; Rubenstein et al., 1993). It is important to note that most of the literature examines the relationship between anorexia nervosa and Obsessive Compulsive Disorder rather than bulimia because there is a paucity of data on bulimia nervosa and Obsessive Compulsive Disorder. This is perhaps because it has been only recently that bulimia has been recognized as a distinct disorder from anorexia nervosa (Hsu, Kaye, & Weltzin, 1993).

One study by Rubenstein et al. (1993) did isolate bulimia nervosa and its relationship to Obsessive Compulsive Disorder. In this study, incidence and lifetime

prevalence of OCD in bulimic patients were examined by administering three separate self-report questionnaires (e.g., the Yale Brown Obsessive Compulsive Scale [YBOCS], the Maudsley Obsessive-Compulsive Inventory [MOCI], and the Symptom Checklist 90-R) and one structured interview. Results from this study concluded that the lifetime prevalence of OCD in bulimic patients was high (32%) and that an additional 24% met criteria for subthreshold OCD, and 44% had no indicators of OCD. Furthermore, and in keeping with the diagnosis of OCD (APA, 1994), many of the obsessions and compulsions were unrelated to food, weight, or body image.

Studies using various methodologies, such as interview (Hsu, Crisp, & Harding, 1979; Kay & Leigh, 1954; Morgan & Russell, 1975), self-report Leyton Obsessional Inventory (Rogers & Petrie, 1996; Smart et al., 1976; Solyom, Freeman, Thomas, & Miles, 1983; Strober, 1980), and Crown-Crisp Experiential Index (Hsu & Crisp, 1980; Stonehill & Crisp, 1977), found significant prevalence of Obsessive Compulsive Disorder in anorectic patients. Additionally, Hsu and Crisp (1980), Rogers and Petrie (1996), and Stonehill and Crisp (1977) found that the obsessional features remained even after recovery had been considered successful. Several studies, however, found contradictory results. Using the Maudsley Obsessive Compulsive Inventory, Fahey (1990), Channon and DeSilva (1985), and Weiss and Ebert (1987) found no significant increase in obsessional scores of eating-disordered patients. Additionally, two of these studies (Channon & DeSilva, 1985; Hsu, Crisp, & Callender, 1992) found elevated pre-recovery scores which returned to normal range after recovery. Hsu et al. (1992) also found that anorexics who remained unrecovered at a 20-year follow-up continued

to obtain elevated obsessional scores. A thorough review of these studies leads experts to conclude that there is still no definitive conclusion regarding the association between eating disorders and Obsessive Compulsive Disorder (Hsu et al., 1993).

Substance abuse, specifically alcohol abuse, has frequently been noted in eating-disordered patients and has a large body of research to support clinical observation (APA, 1994; Brisman & Siegel, 1984; Bulik, 1987a, 1987b, 1991; Casper et al., 1980; Earleywine et al., 1992; Holderness et al., 1994; Hudson et al., 1992; Peveler & Fairburn, 1990; Pyle et al., 1981; Selby & Moreno, 1995; Taylor, Peveler, Hibbert, & Fairburn, 1993). Anorexics were found to have a 6-33% lifetime prevalence of alcohol problems when the anorexia had co-existing bulimic features (Eckert, Goldberg, Halmi, Casper, & Davis, 1979; Henzel, 1984; Hudson, Pope, & Yurgelun-Todd, 1983; Hudson, Pope, Yurgelun-Todd, Jonas, & Frankenburg, 1987). When anorexics without bulimic symptoms were studied there was no apparent increased vulnerability toward alcohol misuse than was found in normal controls (Halmi et al., 1991). Other more recent studies have looked at bulimics as distinct from anorexics and have found that bulimics have significantly greater co-morbidity of alcohol abuse and dependency than do anorexics and normal controls (Beary, Lacey, & Merry, 1986; Bulik, 1987a, 1987b; Bulik et al., 1992; Garfinkel et al., 1980; Goldbloom, Naranjo, Bremner, & Hicks, 1992; Henzel, 1984; Hudson et al., 1987; Hudson et al., 1992; Jones, Cheshire, & Moorhouse, 1985; Lacey & Moureli, 1986; Mitchell et al., 1985; Selby & Moreno, 1995; Wilson, 1992).

Of equal importance to substance abuse in the eating-disordered patients is the

occurrence of eating disorders in women who are receiving treatment for substance abuse (Marcus & Halmi, 1988; Taylor et al., 1993). Many studies concluded that there is a higher incidence of eating disorders in substance-abusing patients than in controls. Prevalence rates of 13 %, 17 %, 26 %, and 30 % were found by Hudson et al. (1992), Striegel-Moore, Cronan, Goebel, Pena, and Scheibe (1992), Peveler and Fairburn (1990), and Goldbloom et al. (1992) respectively. Only Corrigan, Johnson, Alford, Bergeron, and Lemmon (1990) found that 8 % of chemically dependent females scored in the direction of bulimia. They concluded that this was not significantly different than the prevalence of bulimia in the non-chemically dependent population. Experts concur that alcohol misuse, abuse, and dependency are issues which must be assessed and treated simultaneously with the eating disorder when present.

Assessment

Assessment instruments abound in the field of eating disorders but clinicians, experts, and researchers agree that assessment is a complex process due to the multifaceted nature of eating disorders and ill-defined features (Beumont, Abraham, Argall, & Simpson, 1981; Dally & Gomez, 1979; Fairburn & Beglin, 1994; Garfinkel & Garner, 1982; Garner, 1990; Garner & Garfinkel, 1980; Palmer, 1979; Strober, 1980, 1981). Studies also show that there are often false-positives in eating-disorder diagnoses (deZwaan et al., 1993; Freeman & Henderson, 1988; Johnson-Sabine et al., 1988; King, 1986; Pyle et al., 1986; Schotte & Stunkard, 1987; Spitzer et al., 1993; Szmukler, 1982; Williams, Schaefer, Shisslak, Gronwaldt, & Comerici, 1986) as well

as false-negatives. At least two stages are optimal for confirming or disconfirming the diagnosis of anorexia or bulimia, i.e., self-report questionnaire and thorough clinical interview, both of which were used in several studies (Button & Whitehouse, 1981; Clark & Palmer, 1983; Meadows, Palmer, Newball, & Kenrick, 1986; Nagelberg et al., 1984; Nevo, 1985; Shefer, 1987; Whitehouse & Button, 1988).

Eating-disorder assessment instruments to be discussed in this review of literature are the Eating Disorder Inventory-2 (EDI-2; Garner, 1990), the Eating Attitudes Test (EAT; Garner & Garfinkel, 1979), the Stirling Eating Disorder Scales (SEDS; Williams et al., 1994), the Questionnaire for Eating Disorder Diagnosis (Q-EDD; Mintz et al., 1997), and the Structured Interview for Anorexia and Bulimia Nervosa (SIAB; Fichter et al., 1991). The Weight Management Questionnaire (WMQ; Mintz & Betz, 1988), the Body Attitude Test (BAT; Probst, Vandereycken, van Coppenolle, & Vanderlinden, 1995), the Dieting Status Measure (DiSM; Strong & Huon, 1997), the Eating Disorders Examination (EDE; Cooper & Fairburn, 1987), the Three-Factor Eating Questionnaire (TFEQ; Stunkard & Messick, 1985), and the Yale-Brown-Cornell Eating Disorder Scale (YBC-EDS; Sunday, Halmi, & Einhorn, 1995) are additional eating-disorder assessment instruments which are less widely used.

The 64-item EDI-2 (Garner, 1990) was derived from the original Eating Disorder Inventory (Garner, Olmsted, & Polivy, 1983) and is comprised of the same eight subscales designed to apprise psychological and behavioral traits of anorexia nervosa and bulimia: (1) Drive for Thinness, (2) Bulimia, (3) Body Dissatisfaction, (4) Ineffectiveness, (5) Perfectionism, (6) Interpersonal Distrust, (7) Interoceptive

Awareness, and (8) Maturity Fears and includes three new provisional constructs: (1) Asceticism, (2) Impulse Regulation, and (3) Social Insecurity. The EDI was designed to address the cognitive and the behavioral characteristics observed in eating-disordered patients in clinical settings. The internal consistency of the EDI subscales needed to meet the criterion of $\alpha > .80$ for an eating-disorder sample. Reliability coefficients for the original EDI subscales fell between .83 and .93 for the eating-disorder sample thus meeting the established criterion. In the updated version, EDI-2, reliability coefficients of the subscales fell between .80 and .92. The provisional subscales of Asceticism, Impulse Regulation, and Social Insecurity resulted in alphas of .70, .77, and .80 of which only Social Insecurity met with the internal consistency criterion. Schoemaker, Verbraak, Breteler, and van der Staak (1997) studied the discriminant validity of the EDI-2 with bulimic subjects and found only three scales, Bulimia, Interoceptive Awareness, and Asceticism, to discriminate the bulimic group from the general psychiatric control group.

Test-retest reliability is tenuous (Nunnally, 1978) for this population due to the possibility of intervening events (treatment), memory of earlier responses, changes in psychological states, and denial or minimization. However, three test-retest reliability studies were undertaken with nonpatient samples (Crowther, Lilly, Crawford, Shepherd, & Oliver, 1990; Wear & Pratz, 1987; Welch, 1988, as cited in Garner, 1990). With a 1-week interval, the Bulimia ($\alpha = .79$) and Interoceptive Awareness ($\alpha = .67$) did not meet the desired criterion of $\alpha = .80$ (Welch, 1988, as cited in Garner, 1990). The highest test-retest reliability coefficients were received for the

3-week interval where all the subscales exceeded the criterion with the exception of Maturity Fears ($\alpha = .65$). Other subscale coefficients ranged from .81 to .97 (Wear & Pratz, 1987). The poorest reliabilities were found by Crowther et al. (1990) after a 1-year interval. None of the subscales met the $\alpha = .80$ criterion and the range was between .41 and .75.

In order for an item to be retained in the EDI it had to meet three criterion to demonstrate validity: (1) it had to differentiate between the eating-disorder sample and normal female controls; (2) it had to be more highly correlated with its intended subscale than with any other subscale; and (3) internal consistency of items in any one subscale had to reach criterion of $\alpha = .80$ for the eating-disorder sample (Garner et al., 1983). There is a significant body of research which shows the soundness and clinical relevance of the EDI subscales in measuring the experience, attitudes, and behaviors of eating-disorder patients. Content, criterion, convergent, and discriminant validity have all been shown to be acceptable, and many of the studies have been replicated in a variety of settings (Garner, 1990).

The Eating Attitudes Test (EAT-40; Garner & Garfinkel, 1979) has been used to identify patients at risk for anorexia nervosa. It is a 40-item self-report questionnaire and has a 26-item shortened version (EAT-26) which measures three domains: (1) dieting, (2) oral control, and (3) bulimia with food preoccupation (Garner, Olmstead, Bohr, & Garfinkel, 1982). It was tested on patients with identified anorexia nervosa and on control female subjects most of whom were in their 20s. Internal consistency reliability studies resulted in coefficient $\alpha = .94$ for the combined samples of

anorexics and normals. For anorexics alone, the coefficient was .79 (Garner & Garfinkel, 1979). The instrument was designed according to the definition of anorexia nervosa given by Feighner et al. (1972). Because the understanding and criterion have been redefined in recent years, the EAT no longer reflects anorexia nervosa as set forth in the DSM-IV (Garner et al., 1982; Mintz et al., 1997). Additionally, the EAT-40 is found to result in a relatively high rate of false-positives in nonclinical samples (determined as such after clinical interview) (Johnsone-Sabine et al., 1988; Meadows et al., 1986). The EAT authors have cautioned against using this self-report instrument to diagnose anorexia in nonclinical individuals and state that high scores in these individuals may indicate “disturbed eating patterns” but not necessarily anorexia nervosa (Garner et al., 1982, p. 877).

The Stirling Eating Disorder Scale (SEDS; Williams et al., 1994) is an 80-item measure developed to assess eight dimensions of eating disorders: (1) anorexic dietary behavior, (2) anorexic dietary cognitions, (3) bulimic dietary behavior, (4) bulimic dietary cognitions, (5) high perceived external control, (6) low assertiveness, (7) low self-esteem, (8) self-directed hostility. Internal consistency resulted in Cronbach alpha $> .8$ for each of the eight subscales, and split-half reliability coefficients ranged from .72 to .99. Test-retest reliability after a 3-week interval also produced highly significant correlations from .85 to .98. In the between-group validity calculations, all eight scales discriminated between the combined eating-disorder group and the control group. The anorexic group and the bulimic group were significantly different on the four dietary scales but not on the four nondietary scales, which was predicted. Concurrent validity

was indicated as the SEDS was compared to six other measures of eating disorders, self-esteem, locus of control, and assertiveness (Williams et al., 1994).

In order to operationalize the DSM-IV criteria into a self-report measure, the Questionnaire for Eating Disorder Diagnosis (Q-EDD) was developed (Mintz et al., 1997). The Q-EDD differentiates between eating-disordered and non-eating-disordered individuals, between asymptomatic and symptomatic eating-disordered individuals, and between those with anorexia and those with bulimia (Mintz et al., 1997). Convergent validity was supported by comparing the Q-EDD to the Bulimia Test (BULIT-R; Thelen, Farmer, Wonderlich, & Smith, 1991) and the EAT (Garner et al., 1982). Criterion validity resulted in an accuracy rate of 98% and the overall kappa value for level of agreement between Q-EDD categories and the structured clinical interview was .94. Incremental validity, or the extent to which the Q-EDD improved the diagnostic accuracy above existing instruments, was calculated only on the BULIT-R and was shown to increase accurate diagnosis from 54% to 78%. Test-retest reliability also used kappa and found in the eating-disordered and non-eating-disordered groups kappa = .64; in the eating-disordered, symptomatic, and asymptomatic groups kappa = .54. Q-EDD diagnoses were stable over a 2-week period and less stable over a 1-3- month period. Overall, the Q-EDD is a reliable and valid instrument and takes only about 10 minutes to complete, making it convenient and noninvasive (Mintz et al., 1997).

The clinical interview has long been deemed necessary in the assessment of eating disorders. The Structured Interview for Anorexia and Bulimia Nervosa (SIAB) (Fichter et al., 1991) is a semi-structured interview thought to be superior to self-report

assessment due to the tendency of eating-disordered patients to deny and conceal their symptoms and because of the difficulty in objectively defining some symptomatology (Fichter et al., 1991). It was designed to assess both specific and general psychopathology in patients, and to assess family interaction and family pathology in the patient. Six psychopathology components were produced (SIAB-P): (1) body image and ideal of slimness; (2) social integration and sexuality; (3) depression; (4) compulsion and anxiety; (5) bulimic symptoms; and (6) laxative abuse. There were four components produced on the family domain (SIAB-FAM): (1) parental and marital dissatisfaction; (2) achievement orientation and performance expectancy; (3) rigidity and disturbed family interactions; and (4) family closeness and enmeshment. Interrater reliability and internal consistency both resulted in high reliability coefficients Cronbach's $\alpha = .93$. The SIAB discriminates well between healthy controls and eating-disordered patients and includes both present and past evaluation. Validity was established by comparing the SIAB to self-report measures Anorexia Nervosa Inventory for Self-rating (ANIS) and Eating Disorder Examination (EDE) (Cooper & Fairburn, 1987). It was shown to be a valid and reliable measure of both specific and general, past and present, psychopathology of eating-disordered patients and their families (Fichter et al., 1991).

Minnesota Multiphasic Personality Inventory

History

The first version of the MMPI was developed by Starke Hathaway, Ph.D., and J.

Charnley McKinley, M.D., who were both working at the University of Minnesota Hospital, and was published in 1943 (Buchanan, 1994; Butcher & Williams, 1992; Dahlstrom & Dahlstrom, 1980; Dahlstrom, Welsh, & Dahlstrom, 1972, 1975; Graham, 1987, 1993). The zeitgeist was ready for the merger of psychiatry and clinical psychology in order to medically classify (diagnose), operationalize, and measure human behavior, attitudes, and functioning. The pre-World War II era, during which the MMPI was developed, was one of economic depression and partial funding was procured from the Works Progress Administration (WPA), a depression-era employment (New Deal) program. Psychology up to this time had been largely considered an academic science with little applicability. The MMPI altered that with its widespread application in medical, clinical, industrial, university, and correctional settings (Buchanan, 1994, Dahlstrom et al., 1972, 1975). Additionally, the methods of assessment at the time were not adequate and sufficient: psychiatric interviews were lengthy and costly, existing personality inventories did not meet diagnostic needs, and projective tests, depending upon the patronage of psychiatrists trained in a psychodynamic setting, were not conducive to mass screenings and did not meet diagnostic needs (Buchanan, 1994). Hathaway (1983) summarized it succinctly: "The entire venture (the MMPI) began because Dr. McKinley and I wanted to condense those long psychiatric interviews, which were very expensive for the patient" (p. iv).

Empirical Keying

Hathaway and McKinley used the empirical keying approach as opposed to the

more popular logical keying approach (Graham, 1987, 1993). The difference in these approaches is significant because the former determines empirically which items differentiate between groups of subjects while the logical keying approach generated items rationally or logically with considerable face validity. It was believed that empirical keying would minimize the ability of the subject to falsify or distort his/her responses in order to achieve his/her desired presentation because items contributing to a specific scale were not logically derived (Graham, 1987, 1993).

Item Generation

Items for the MMPI were generated from psychological and psychiatric case histories, clinical experiences, psychiatric and psychological textbooks, and on earlier scales and inventories of personality and social attitudes (Buchanan, 1994; Graham, 1987, 1993). Items were written in simple, first-person, declarative sentences to which the respondent could reply "true," "false," or "cannot say." Over a thousand items were considered for inclusion, and Hathaway and McKinley selected 504 items which they believed were reasonably discrepant from one another (Graham, 1987, 1993). Many items were found to be objectionable largely because they dealt with bodily functions and religion (Butcher & Tellegen, 1966), and new normative data were sought. The original MMPI was revised to the current MMPI-2.

Scale Development

Subjects were selected from the University of Minnesota hospitals. "Normals" consisted of visitors of patients in the hospitals, a group of recent high-school

graduates, a group of WPA workers, and a select group of medical patients (Graham, 1993). The criterion group were those who had been psychiatrically diagnosed by the staff at the university hospital. This second group was made up of patients who fit the diagnostic categories of one of the recognized psychopathologies at the time (Graham, 1993). These diagnostic subgroups of the criterion group had to be distinct. In cases where a patient had multiple diagnoses, the patient was excluded from the clinical reference group. Specific subgroups were: hypochondriasis, depression, hysteria, psychopathic deviate, paranoia, psychasthenia, schizophrenia, and hypomania. These subgroups ultimately responded in a manner significantly different enough from each other and from normals to form distinct clinical scales named for each diagnostic label. Cross-validation studies were undertaken to ensure the applicability of the MMPI in differential diagnoses (Graham, 1993). The manifest content of the items was unimportant, and no item was eliminated based on its connection or lack of connection to the psychopathology in question (Buchanan, 1994; Dahlstrom, 1956). The Masculinity-Femininity scale and the Social Introversion scale were developed after the initial eight basic scales to bring the total basic scales to 10. These same 10 scales make up the clinical scales of the MMPI-2. Validity scales were also derived: Cannot Say (?), Lie (L), Frequency (F), and Correction (K), and of these four scales, only the L scale was rationally derived while F and K were empirically derived (Buchanan, 1994; Graham, 1993).

Harris-Lingoes Subscales

Because the standard clinical or basic scales of the MMPI were constructed by empirical keying and are heterogeneous in nature, the Harris-Lingoes subscales were constructed logically by examining the content of the items within six of the basic scales (2, 3, 4, 6, 8, 9) and are more homogeneous in nature. Scales 1 and 7 were not analyzed due to their relative existing homogeneity, and scales 5 and 0 were excluded because they were not part of the standard clinical scales. In the development of the Harris-Lingoes subscales, items were grouped together logically which were deemed to represent a similar attitude, trait, and/or content. General support for these subscales was reported by Comrey (1957a, 1957b, 1957c, 1958a, 1958b, 1958c, 1958d; Comrey & Marggraff, 1958) who used factor analysis to determine intercorrelations of the items within each subscale. The Harris-Lingoes subscales are interpretively useful, can augment interpretation, and continue to be routinely scored and reported by the MMPI-2 automated scoring services. Clinicians are cautioned, however, about interpreting these subscales without considering the standard clinical scales (Graham, 1993).

Content Subscales

Content subscales were developed by Wiggins (1969) using the entire item pool to construct 13 content categories. Wiggins used both logical and empirical procedures to develop these psychometrically sound subscales. With the development of the MMPI-2, however, some of the items contributing to these subscales were deleted and new content subscales were developed from the MMPI-2 item pool (Butcher, Graham,

Williams, & Ben-Porath, 1990). Expert judges and raters were used to assign items to subscales and the provisional subscales were given to two groups of psychiatric patients and two groups of non-psychiatric individuals. The final analysis was done conceptually--did the items fit together by content? Unlike the standard clinical scales, the 15 content subscales eliminated items which were statistically related but not logically related to the domain in question (Graham, 1993).

Supplementary Subscales

Items were recombined in multiple ways to construct more than 450 supplementary subscales (Caldwell, 1988; Dahlstrom et al., 1972, 1975). Construction, psychometric properties, and heuristic value of these supplementary subscales differed markedly and many were deleted in the MMPI-2 (Graham, 1993). Supplementary subscales pertinent to this study are the Alexithymia Scale, MacAndrew Alcoholism Scale-Revised, and the Addiction Potential Scale because of the empirical keying method used in the construction of each.

The Alexithymia subscale was developed by Kleiger and Kinsman (1980) utilizing the same empirical criterion methodology in scale construction as the original MMPI. They studied a sample of 100 respiratory patients and retained items which differentiated alexithymic individuals from non-alexithymic individuals based on the criterion instrument, the Beth Israel Hospital Psychosomatic Questionnaire (BIQ) (Sifneos, 1973). Several years later the Alexithymia Scale was reassessed. This subscale and its validity were found to be questionable, in part, due to the murkiness

of alexithymia as a personality construct and the less than desirable psychometric properties of the external criterion (BIQ) (Bagby, Parker, & Taylor, 1991; Bagby et al., 1988). Nevertheless, the procedure of empirical keying has been used successfully when the criterion group is well defined (Briggs & Cheek, 1986).

The MacAndrews (MAC) subscale (MacAndrew, 1965) was developed by empirical keying to differentiate alcoholic from non-alcoholic men and had the added feature of eliminating items which were obviously intended to measure excessive drinking (MacAndrew, 1967). Alcoholics, like eating-disorder individuals, are likely to deny, minimize, or lie about alcohol/food-related items. MacAndrew set out to develop a subtle scale to increase the chances of accurate assessment (Graham, 1993). Numerous studies have been undertaken which result in support for the 49-item MAC scale as being discriminatory between alcoholics and non-alcoholics (Apfeldorf & Hunley, 1975; MacAndrew, 1965, 1967; Rhodes, 1969; Rich & Davis, 1969; Rohan, 1972; Schwartz & Graham, 1979; Whisler & Cantor, 1966; Williams, McCourt, & Schneider, 1971). Caution is given when using this scale with African-Americans and women, and for diagnosing alcoholism based on the MAC alone. High scores (over 24) should be looked at as indicators that further assessment is needed and not as decisive (Graham, 1993). In spite of its critics (Gottesman & Prescott, 1989), the MAC scale is the most widely used personality-based indicator of substance abuse (Weed, Butcher, McKenna, & Ben-Porath, 1992).

Similar to the MAC, the Addiction Potential Scale (APS; Weed et al., 1992) was empirically derived and designed to identify personality characteristics and life patterns

related to substance abuse. The scale is comprised of 39 heterogeneous items which have no apparent connection to substance use or abuse (four items were discarded due to their obvious reference to substance abuse) (Weed et al., 1992). Data on this scale are scant and clinicians are urged to use high scores as an indicator that further evaluation is warranted (Graham, 1993; Weed et al., 1992).

MMPI Applicability to Eating Disorders

The MMPI is not only widely utilized in a multitude of settings, it is also widely researched. There have been over 8,000 validity studies undertaken throughout the MMPI's more than 50-year history (Anastasi, 1988; Graham, 1987; Groth-Marnat, 1990). Many studies have utilized the MMPI in order to facilitate understanding of the personality features of eating-disordered individuals (Bulik et al., 1991; Bulik et al., 1992; Casper et al., 1992; Hatsumaki et al., 1982; Leon et al., 1985; Lilenfield, 1995; Scott & Baroffio, 1986; Scott & Thoner, 1986; Vandereycken & Vanderlinden, 1983). Other studies attempted to ascertain MMPI code types or specific profile configurations which are indicative of eating-disordered symptomatology (Baer-Barkley, 1998; Biederman, Habelow, Rivinus, Harmatz, & Wise, 1986; Casper et al., 1992; Leon, Lucas, et al., 1985; Norman & Herzog, 1983; Pendleton, Moll, Tisdale, & Marler, 1990; Small et al., 1981).

The most consistent configuration found was the V-shaped pattern involving scale 4-5-6 (Psychopathic Deviate, Male/Female, and Paranoia subscales, respectively) (Baer-Barkley, 1998; Norman & Herzog, 1983; Pendleton et al., 1990; Shisslak et al.,

1990). Greene (1990b) has described females with this 4-5-6 V-configuration as hostile and angry yet unable to adequately express their anger and hostility. This may then result in passive-aggressive tendencies. Johnson and Connors (1987) and Root et al. (1986) stated that this indirect expression of anger is associated with eating-disordered pathology.

Additional MMPI elevations noted have been on scales 2 and 7 (Depression and Psycasthenia, respectively) by Biederman et al. (1986); Casper et al. (1992); Norman and Herzog (1983); Scott and Baroffio (1986); Scott and Thoner (1986); Small et al. (1981). Elevations on these scales are indicative of the depressive and obsessional features frequently observed in eating-disordered individuals.

MMPI/MMPI-2 Relationship

One of the goals of the MMPI revision was that the integrity of the original instrument be maintained in order to take advantage of the plethora of MMPI research which existed (Butcher & Pope, 1992; Duckworth & Anderson, 1986; Graham, 1987, 1993; Graham, Timbrook, Ben-Porath, & Butcher, 1991; Greene, 1990a, 1990b). Of the 566 items on the MMPI, 394 were retained in identical form in the MMPI-2, and an additional 66 items were modified in wording but not in meaning. Ninety items, considered offensive or obsolete, were deleted, and 107 new items were incorporated in the new version (Levitt, 1990). The revision committee held to the claim that the research derived from the MMPI would be transferable to the MMPI-2 due to the similarities of the reliabilities of the scales and the factor structure of the two versions

(Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989; Graham et al., 1991). Chojnacki and Walsh (1992) and Levitt, Browning, and Freeland (1992) supported the claim of Ben-Porath and Butcher (1989) regarding the consistency and interpretive usefulness of the MMPI specialty scales from the MMPI-2. Generally speaking, the “results of our study are favorable toward MMPI and MMPI-2 consistency, showing that variance in scores between the two instruments exist, but it is not very large” (Chojnacki & Walsh, 1992, p. 288). In looking at the code-type congruence, it was found that there was greater congruence between the two versions of the test than between two administrations of the same version (Graham et al., 1991). Levitt (1990) studied the impact the the MMPI-2 on special scales, that is, the Harris and Lingoes Scales (1955, 1968), the Wiggins Content Scales (Wiggins, 1966), and selected scales, and found that most of the special scales developed for the original instrument remain usable in the newer instrument. Likewise, a comparison of MMPI and MMPI-2 T-scores was undertaken, and it was found that the earlier version resulted in slightly higher T-scores for women than T-scores on the latter version (with the exclusion of Mf scale) but the profile configurations were not significantly altered (Ward, 1991). The consensus of the researchers seems to uphold the original claim of the members of the revision committee that the new instrument is consistent enough with the original instrument to make use of the research on the validity and clinical scales of the original as well as most of the special scales (Butcher & Pope, 1992).

CHAPTER III

METHODOLOGY

Overview

Eating disorders are life-threatening disorders which have been infiltrating the lives of American females (males to a lesser degree) for many years. The problem has been escalating throughout the second half of this century. Mental-health practitioners are limited in their ability to screen for these disorders at an early stage, and hence, eating-disordered individuals may go untreated or ineffectively treated for years. The MMPI-2 is the most widely used psychological instrument by mental-health professionals. An elevated score on this proposed subscale would alert clinicians to undertake a full eating-disorder assessment or refer the client to someone with specialized training in eating disorders.

Restatement of the Problem

The focus of this study was to identify items on the MMPI which differentiate eating-disordered females from non-eating-disordered females. After the identification of these items, the goal was to form a subscale to screen for eating disorders as early detection is optimal in the treatment of these life-threatening disorders. The methodology and statistical procedures employed in this study are presented in this

chapter. The following sections are included in this chapter: Overview, Restatement of the Problem, Research Sample, Instrumentation, Research Design, Research Procedures, Data Collection Procedures, and Data Analysis Procedures.

Research Sample

This study has four phases: Phase 1 involved the original data collection and analysis; Phase 2 involved the determination and analysis of the expert judges' opinions; Phase 3 involved the cross-validation data collection and analysis; and Phase 4 involved scoring the proposed subscale, completing the principal components analysis, and finalizing the proposed MMPI-2 eating-disorder subscale. The population from which the initial sample, referred to as Phase 1, was drawn was eating-disordered individuals in the Michiana area who had previously been evaluated for the presence of anorexia nervosa, bulimia nervosa, or eating disorder not otherwise specified. A sample of 354 MMPI answer sheets of diagnosed eating-disordered individuals was selected from the files of Sheridan P. McCabe, Ph.D., consulting psychologist for Healthy Options for Problem Eaters (HOPE). A sample of 238 non-eating-disordered individuals' MMPI profiles was selected from the files at Psychological and Family Consultants (PFC), Elkhart, Indiana. These are known-group selections. Only female profiles were used in this study.

The sample for Phase 3, the cross-validation study, was comprised of 24 eating-disordered females and 27 non-eating-disordered females. Group membership was predetermined according to eating-disorder or non-eating-disorder DSM-IV diagnosis

which was made by each subject's therapist. Area therapists and the HOPE program were approached to ask patients to participate in Phase 3 of this study.

Instrumentation

The instrument used for Phase 1 of this study was the Minnesota Multiphasic Personality Inventory (MMPI). The MMPI, developed by Hathaway and McKinley in 1943, is a personality inventory composed of 566 true-false items and was designed to diagnose patients into different categories of neuroses and psychoses. Currently, the instrument is used in mental-health settings, hospital psychiatric units, university counseling centers, employment and career centers, and in industrial settings (Graham, 1990, 1993). For further discussion about the history, composition, and revision of the MMPI refer to chapter 2.

The cross-validation portion of this study, Phase 3, utilized the proposed 87 item questionnaire and the Eating Disorders Inventory-2 (EDI-2). The EDI-2, developed by Garner (1990), is aimed at the delineation and measurement of psychological features or symptom clusters thought to be relevant in understanding eating disorders. It contains measurement on eight subscales: drive for thinness (DT), bulimia (B), body dissatisfaction (BD), ineffectiveness (I), perfectionism (P), interpersonal distrust (ID), interoceptive awareness (IA), and maturity fears (MF), and three provisional subscales: asceticism (A), impulse regulation (IR), and social insecurity (SI). Further discussion of the EDI-2 is found in chapter 2.

Research Design

This research project involved scale development for the screening of eating disorders utilizing the 566 items on the MMPI. A Known-Group Comparison Design, based on prior diagnosis of an eating disorder, was used in which the directional responses to items on the MMPI of eating-disordered individuals were compared to the directional responses to the same items of non-eating-disordered individuals. All 566 items were compared for each subject in the two groups, and empirical keying (*t*-tests) was used to determine items which differentiate between eating-disordered individuals and non-eating-disordered individuals.

A weakness of this research design is the lack of randomization. Because a large sample size was desired, I opted to use all available and appropriate subjects' answer sheets rather than to randomly select from within those answer sheets. This research used MMPI answer sheets from inventories which were administered over the past 10 years (eating-disordered sample: 1987-1995; non-eating-disordered sample: 1987-1997) giving rise to the question of temporal factors. Additionally, external validity could be threatened by this time element. Content validity could be questioned due to the fact that the items generated for the MMPI were not specifically intended for the eating-disordered population. It is also possible that the revised MMPI, the MMPI-2, contains items not in the original MMPI which would discriminate between eating-disordered and non-eating-disordered individuals. In that event, some pertinent items may have been omitted

One strength of this design is that empirical keying was used to determine the

subscale. This method is consistent with the development of the clinical subscales of the MMPI and the MacAndrews-revised (MAC-R) subscale which screens for substance abuse. Empirical keying minimizes the likelihood of distorted responses in the form of denial, minimization, and approval seeking, which are likely to occur with eating-disordered subjects. Another strength of this study is the relatively large sample size used: eating-disordered sample Phase 1 ($n = 354$) and non-eating-disordered sample Phase 1 ($n = 238$). Much of the research on eating disorders has employed considerably fewer eating-disordered and control subjects. Furthermore, the subjects in both eating-disorder and non-eating disorder groups were derived from community samples and included females between the ages of 13 and 60 in the eating disorder group in Phase 1, and between the ages of 15 and 73 in the non-eating-disorder group in Phase 1. This is in contrast to much of the existing research which has been undertaken with college and university populations and gives an age-biased sample. It is not clear whether this subscale will be generalizable to males with eating disorders or to compulsive overeaters.

Research Procedures

Phase 1: Initial Study

In Phase 1, the 354 profiles representing the eating-disordered population were obtained from Sheridan P. McCabe, Ph.D., Consulting Psychologist, Memorial Hospital/ Healthy Options for Problem Eaters (HOPE), South Bend, Indiana. Permission to use the profiles was requested and granted from Jan Howard, Director

of The Human Subjects Committee of Memorial Hospital. for the use of the MMPI answer sheets. The 238 non-eating-disordered answer sheets were obtained from the outpatient clinical practice at Psychological and Family Consultants (PFC), Elkhart, Indiana. Permission to use profiles from PFC was requested and granted from Michael W. Oyer, M.A., owner and director of PFC; and Sheridan P. McCabe, Ph.D., clinical director of PFC. Each female file was examined for the presence of an MMPI answer sheet. Files with only an MMPI Short Form were eliminated. Remaining files were scrutinized to detect any symptomatology or diagnosis of an eating-disorder. Only female profiles generated from clients with no indication of eating-disordered symptoms were included in the non-eating-disordered group. All profiles in both groups were used without identifying information except age to protect the anonymity and to uphold the confidentiality of the individuals.

Statistical Package for the Social Sciences (SPSS) was used to run individual t -tests for each of the 566 items. Statistical significance was determined at the .01 level. One hundred forty items met the statistical criterion for Phase 1. Thirteen MMPI items which met the statistical requirements but do not also appear in the MMPI-2 were eliminated. A series of factor analyses were performed on the remaining 127 items but, upon examination of the factor solutions, no meaningful underlying structure was present in the resulting clusters of items. Additionally, some items did not load in any factor at all. For this reason, looking at the global meaning was deemed preferable. See chapter 4 for further discussion.

Phase 2: Expert Judges

In Phase 2, expert judges were utilized to narrow the field of items for the proposed subscale. Four eating-disorder experts were asked to review the 127 items derived from the empirical keying or independent t-tests. This panel of experts was comprised of one psychological evaluator, one eating-disorder researcher, and two eating-disorder clinicians. The directions given to the experts were to select those items which they deemed conceptually congruent with eating-disordered psychopathology and to assign a True or False response to each item selected. Concurrence of three of the four experts on an item and the direction of the “correct” response (True or False) was needed to include the item in the subscale. This process resulted in 90 items being selected. Three of the 90 items were duplicate items and were not retained leaving 87 items to be used in Phase 3.

Phase 3: Cross-Validation

Cross-validation was accomplished by administering the 87 items which comprise the proposed eating-disordered subscale to a new research sample. An eating-disordered group ($n = 24$) and a non-eating-disordered group ($n = 27$) was procured from Psychological and Family Consultants, the HOPE program, St. Anthony’s Memorial Health Centers, and area clinicians. Only females were used and subject age was the only demographic available. Subjects and therapists alike were provided with an explanation of the study and signed consent forms stating that they were willing participants and understood the nature of the study. Samples of the consent forms and

the explanation of the cross-validation study are located in Appendix E and Appendix F, respectively. Each subject, regardless of diagnostic group, was asked to complete the 87-item proposed questionnaire as well as the EDI-2. I scored the EDI-2 and entered the scores into the computer along with each subject's T/F responses to the proposed eating-disorder subscale. Graph-style profiles were generated from the EDI-2, and were made available to therapists regardless of the eating-disorder or non-eating-disorder indicators. The two groups' responses were compared to determine if these items do indeed differentiate eating-disordered from non-eating-disordered individuals.

Phase 4: Finalization of Proposed Subscale

Phase 4 involved six steps: (1) scoring the Phase 3 questionnaires for the eating-disorder group and non-eating-disorder group according to the expert judges responses; (2) deriving the group means and standard deviations; (3) determining each item's correlation with the total scale; (4) eliminating items which do not meet the item total correlation criteria of 0.33 (Gable & Wolf, 1993); (5) deriving new group means and standard deviations and checking for statistical significance; (6) computing Cronbach reliability coefficients on the finalized proposed subscale.

Data Collection Procedures

Patients beginning the HOPE program were routinely given the MMPI during the assessment process. Clients seeking psychological help at PFC were often given the MMPI to aid in diagnosis and treatment. The data for Phase 1 were collected by procuring the answer sheets from the MMPIs which had been completed between 1987

and 1995 by patients in the HOPE program and between 1987-1997 by patients from PFC.

Regarding the data for Phase 2, the cross-validation was collected by administering the 87 items in the proposed eating-disorders subscale along with the EDI-2 to clients receiving counseling at PFC, HOPE, St. Anthony Memorial Health Centers, and other counseling sites in the Michiana area. Of the 33 non-eating-disorder packets distributed, 27 were returned by the February 17, 1999, deadline. Two were returned after data analysis was completed and, therefore, could not be used. Forty-one eating-disorder packets were distributed and resulted in a return of 24. All participants, whether diagnosed with an eating disorder or other psychological disorder, completed both instruments along with a consent form.

Data Analysis Procedures

Empirical keying, or independent *t*-tests, was used to compare the responses to each item by the two research groups. This method of determining differentiation between groups is congruent with that of the original MMPI and the MAC-R subscale. The logical keying approach was considered for this project but it was deemed less desirable than the empirical keying approach. Logical keying includes items based on the obviousness of the content. Eating-disordered individuals, similar to alcoholics, are likely to deny or misrepresent themselves on obvious items. It is for this same reason that the development of this subscale by utilizing a panel of expert judges during Phase 1 was rejected. Items were determined to differentiate between the eating-disorder

group and the non-eating-disorder group if they met the .01 criterion established by the researcher. Of the 140 items meeting the .01 criterion, 13 items had been eliminated during the revision of the MMPI which resulted in the MMPI-2. Those 13 items were deleted, leaving 127 items.

Further analysis was undertaken by four expert judges in Phase 2. Three out of four eating-disorder experts had to concur on any one item as being characteristic of eating-disorder symptomatology and in terms of directionality for the item to be included in the proposed subscale. The inclusion of experts in the field of eating-disorders was deemed appropriate as a way to rationally balance the purely statistical analysis of the original 127 items. In this way, the 127 items was reduced to 87 items, which is less cumbersome and more efficacious for a subscale. See Appendix G.

Upon completion of data collection in Phase 3, items were again scrutinized by empirical analysis with the criterion of .01 to determine which items hold statistical significance in the cross-validation. Two analyses were undertaken due to several individual discrepancies between the therapist-determined diagnostic group (eating-disordered or non-eating-disordered) and the results of the EDI-2. There were 2 subjects whom therapists identified as non-eating-disordered who scored in the eating-disordered range on the EDI-2. Likewise, there were 4 subjects whom therapists identified as eating disordered who did not obtain profiles indicative of eating disorders on the EDI-2. This discrepancy necessitated two separate analyses: one utilizing diagnostic group compared to clinical group; one utilizing EDI-2 group compared to clinical group. For further discussion refer to Research Procedures, Phase 3. When

comparing the eating-disordered diagnostic group to the clinical group (non-eating-disordered group), 34 items differentiated eating-disordered subjects from non-eating-disordered subjects at the .01 criterion level. When using the EDI-2 classification group (those subjects who obtained EDI-2 profiles indicative of eating disorders), 46 items differentiated the eating-disordered group from the clinical group at the .01 criterion level.

In Phase 4 group means and standard deviations were found for the eating-disorder sample and the non-eating-disorder sample. Each item was analyzed in terms of its correlation with the total structure of the questionnaire. Items were retained that met the item total correlation criterion of 0.33. Internal consistency using Cronbach's alpha coefficient was then determined.

Summary

The methodology for this study involved scale development and included 4 phases: initial study (Phase 1), expert judges (Phase 2), cross-validation (Phase 3), and finalization of proposed subscale (Phase 4). The research sample for Phases 1 and 3 was divided into two distinct groups: eating-disordered and non-eating-disordered. The eating-disordered group for Phase 1 came from the files of the HOPE program and the non-eating-disordered group came from the files of PFC. In Phase 3, the eating-disordered sample and the non-eating-disordered sample were obtained from clinical case loads from area mental-health agencies.

Phase 2 entailed requesting four experts to review the 127 MMPI-2 items which

statistically differentiate eating-disordered from non-eating-disordered patients and to select those which they deemed to be characteristic of eating-disorders. Seventy-five percent concurrence of the experts in terms of inclusion and True or False response was necessary for the item to be retained in the subscale. Eighty-seven items met the criterion and comprise the proposed eating-disorder subscale.

Phase 4 involved scoring the 87 items from the Phase 3 sample of eating-disordered and non-eating-disordered subjects. Means and standard deviations of the raw scores were calculated and statistical significance computed. Additionally, each item was analyzed as to its correlation with the total. Those not meeting the 0.33 criterion were eliminated and new means and standard deviations were sought. Phase 4 resulted in the proposed MMPI-2 eating-disorder subscale being finalized.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Restatement of the Problem

The focus of this study was to identify items on the MMPI which differentiate eating-disordered females from non-eating-disordered females. After the identification of these items, the goal was to develop a proposed subscale to screen for eating disorders as early detection is optimal in the treatment of these life-threatening disorders. This chapter presents the data and their analysis. The following sections are included: Restatement of the Problem; Description of the Sample: Phase 1 and Phase 3; Item Selection: Phase 1 (*t*-test results and decisions based on factor analysis), Phase 2 (results of expert judges), Phase 3 (cross-validation), Phase 4 (finalization of proposed subscale), and Summary.

Research Sample

The population from which the initial sample, referred to as Phase 1, was drawn was eating-disordered females in the Michiana area who had previously been evaluated for the presence of anorexia nervosa or bulimia nervosa. A sample of 354 MMPI answer sheets of diagnosed eating-disordered individuals who were beginning treatment was selected from the files of Sheridan P. McCabe, Ph.D., consulting psychologist for

Healthy Options for Problem Eaters (HOPE). A sample of 238 non-eating-disordered females' MMPI answer sheets was selected from the files at Psychological and Family Consultants, Elkhart, Indiana. These are known-group selections. The eating-disordered sample ($n = 314$) included females ages 13-60 ($M = 26.05$, $SD = 9.00$). The non-eating-disordered sample ($n = 218$) included females ages 15-73 ($M = 31.92$, $SD = 10.92$). Of the 593 subjects, only 532 (314 eating-disordered subjects and 218 non-eating-disordered subjects) indicated their age, resulting in 10.3% missing data. See Table 1.

TABLE 1
AGE DESCRIPTION OF PHASE 1 SAMPLE

Group	<i>N</i>	Mean	<i>SD</i>	Minimum	Maximum	Range
Eating Disorder	314	26.05	9.00	13	60	47
Non-Eating Disorder	218	31.92	10.92	15	73	58
Total	532	28.46	10.24	13	73	60

In Phase 3, the cross-validation study, the sample was comprised of 24 eating-disordered females and 27 non-eating-disordered females. In this portion of the study, the ages of the eating-disorder sample ($n = 24$) were 18-54 ($M = 33.33$, $SD = 10.85$).

The ages of the non-eating-disorder sample ($n = 26$) were 20-56 ($M = 38.15$, $SD = 10.91$). It should be noted that the smaller sample size ($n = 50$) for determining means and standard deviations is reflective of missing data, e.g., subjects omitting age. See Table 2.

TABLE 2
AGE DESCRIPTION OF PHASE 3 SAMPLE

Group	<i>N</i>	Mean	<i>SD</i>	Minimum	Maximum	Range
Eating Disorder	24	33.33	10.85	18	54	36
Non-Eating Disorder	26	38.15	10.91	20	56	36
Total	50	35.84	11.04	18	56	38

Item Selection

Phase 1: Initial Study

Initially, the Phase 1 MMPI items selected were those which differentiated, through empirical keying, eating-disordered subjects from non-eating-disordered subjects at the criterion level of .01. Empirical keying, or *t*-test analysis, resulted in 140 items meeting the differential criterion. Of those 140 items, 13 items do not appear in the MMPI-2. Since the MMPI-2 is the version currently being used in

mental-health settings, only those 127 items which met the .01 criterion and also appear in the MMPI-2 were considered.

A series of exploratory factor analyses was conducted in an effort to reduce the number of variables. I thought that there might be some distinct underlying structures which would emerge from the set of 127 items. Factor loadings of 0.30 (Tabachnick & Fidell, 1989) was used as a criterion for inclusion in any factor. Principal components analysis using orthogonal rotations was conducted. Orthogonal solutions offer ease of interpretation, description, and reporting (Tabachnick & Fidell, 1989). The initial analysis resulted in 34 factors (eigenvalues of 1 or greater). An examination of the scree plot suggested 6-8 factors. Subsequent analyses restricting the number of factors to 6, 7, and 8 were conducted. In all cases, the principal components analysis without rotation indicated that most of the items loaded on the first factor (accounting for 27 to 30 percent of the variance) with little distinct meaning for the other factors. Appendix D shows an orthogonally (varimax) rotated 6-factor solution. The results of the factor solution indicate numerous eating-disorder characteristics including anxiety, depression, social introversion, anger, hysteria, hypochondriasis, mania, type A personality, paranoia, assertiveness, low self-esteem and sexual issues. Interestingly, however, items measuring any particular characteristic were not found to cluster together in any one factor. Instead, each factor was comprised of an intermingling of eating-disorder characteristics. This pattern of results was also found in the 7 and 8-factor solutions. Additionally, a number of items did not load on any factor. Perhaps the 127 items

represent a global measure of eating disorders. A panel of expert judges was sought to assist in this determination.

Phase 2: Expert Judges

When I examined the 127 items as a global measure which differentiated eating disorders from non-eating disorders, I saw indicators of numerous eating-disorder characteristics such as anxiety, worry, self-esteem, trust, paranoia, asseriveness, and sexual issues. In addition, there were items which did not appear to be conceptually related to eating disorders and yet statistically differentiated eating disorders from non-eating disorders in Phase 1. Therefore, to further refine the instrument, I invoked the help of eating-disorder experts. Four eating-disorder experts were enlisted to respond to the 127 items which were retained from Phase 1 and to select those which they deemed to be characteristic of eating-disordered attitudes, thoughts, feelings, or behaviors. Three out of four experts needed to concur on retention and the predicted eating-disordered individual's response (T/F) in order for that item to be included in the instrument. Appendix C shows the content of the items, each judge's opinion, and the predicted eating-disordered response. Eighty-seven items met the criteria in Phase 2 and made up the proposed eating-disorder questionnaire to be administered in Phase 3, the cross-validation.

Phase 3: Cross-validation

In Phase 3, eating-disordered and non-eating-disordered subjects were asked to complete two questionnaires: the EDI-2 and the proposed eating-disorder questionnaire.

The 87-item proposed questionnaire appears in Appendix G. The cross-validation was more complex than the initial phase due to the introduction of the EDI-2. It was discovered that 14.8% of the subjects who were diagnosed as non-eating-disordered by their respective therapist obtained EDI-2 profiles consistent with the EDI-2 normative data for eating disorders ($n = 4$). Similarly, 8.3% of the subjects who were in the eating-disordered group obtained EDI-2 profiles which were not characteristic of eating disorders according to the EDI-2 norms ($n = 2$).

Empirical keying used in the cross-validation resulted in 34 items meeting the .01 significance level when the groupings were eating-disordered or non-eating-disordered as determined by therapist diagnosis. Table 3 lists the means, standard deviations, and significance levels of the 34 items which differentiate eating disorders from non-eating disorders when grouped by diagnosis. When grouped by EDI-2 classification, Table 4 shows that there were 46 items which met the .01 significance level. The results of the cross-validation study, Phase 3, were not consistent with the results of Phase 1, in which 127 items differentiated eating disorders from non-eating disorders, and Phase 2, in which 87 of the 127 items were judgmentally deemed to be valid measures of eating disorders. Ideally, the cross-validation phase would have produced results similar to the initial phase of this scale-development research. To explain this discrepancy, it is important to understand the differences between the Phase 1 and Phase 3 samples in terms of size and stage of treatment. The Phase 1 sample was considerably larger ($n = 592$) than the Phase 3 sample ($n = 51$) thereby reducing the chance of the Phase 1 results being due to some artifact. Additionally, as eating-

disordered individuals participate in treatment, the psychological and behavioral features are likely to diminish. The Phase 1 sample consisted of individuals in the early stages of treatment whereas the Phase 3 sample was less homogeneous in terms of treatment stage and duration of the illness. Some of the Phase 3 eating-disordered subjects had undergone 2 to 5 years of treatment prior to this research ($n = 11$) and had exhibited eating-disordered symptoms for many years prior to treatment. In retrospect, it would have been desirable to consider the duration of illness and the length of treatment of each individual who participated in Phase 3.

It was decided that the results derived from Phase 2, as opposed to Phase 3, were the most appropriate to be used for the eating-disorder subscale for three reasons: (1) Phase 2 was based on the empirical data derived from Phase 1 in which 127 items differentiated eating-disordered females from non-eating-disordered females; (2) Phase 2 incorporated the empirical data with conceptual data by using expert judges; (3) Phase 2 was derived from Phase 1 which was comprised of a significantly larger sample size and more uniformity in treatment stage than Phase 3. Thus, the proposed MMPI-2 eating-disorder subscale consisted of the 87 items identified in Phase 2 and not the 34 items or 46 items identified by diagnostic group or EDI-2 classification, respectively, in Phase 3.

Phase 4: Finalization of Proposed Subscale

Steps 1 and 2 in Phase 4 involved scoring the responses on each subject's eating-disorder questionnaire in both groups and obtaining the group mean score. One

eating-disordered subject's eating-disorder questionnaire was not scored due to an inordinate number of items (31) responded to in an ambiguous manner (e.g., sometimes, maybe, usually) instead of the required True or False response format. Table 5 shows the means and standard deviations for the two groups on the 87-item

TABLE 3
GROUP STATISTICS BY DIAGNOSIS

Questionnaire	<u>Eating Disorder</u>			<u>Non-Eating Disorder</u>					
Item #	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>df</i>	<i>t</i>	<i>Significance</i>
1.	24	1.21	.51	27	1.04	.19	49	1.625	.111
2.	24	1.75	.44	27	1.56	.51	49	1.452	.153
3.	24	1.67	.48	27	1.37	.49	49	2.168	.035*
4.	24	1.54	.59	27	1.30	.47	49	1.661	.103
5.	24	1.42	.50	27	1.19	.40	49	1.835	.073
6.	24	1.46	.59	27	1.93	.27	49	-3.725	.001**
7.	24	1.20	.55	27	1.85	.36	49	-4.371	.001**
8.	24	1.46	.59	27	1.74	.45	49	-1.944	.058
9.	24	1.33	.56	27	1.78	.42	49	-3.201	.002**
10.	24	1.42	.58	27	1.85	.36	49	-3.239	.002**
11.	24	1.33	.48	27	1.74	.45	49	-3.134	.003**
12.	24	1.17	.48	27	1.63	.49	49	-3.387	.001**
13.	24	1.38	.58	27	1.81	.40	49	-3.208	.002**
14.	24	1.54	.59	27	1.11	.42	49	3.024	.004**
15.	24	1.38	.49	27	1.74	.45	49	-2.776	.008**
16.	24	1.83	.38	27	1.70	.47	49	1.080	.285
17.	24	1.17	.48	27	1.48	.51	49	-2.261	.028*
18.	24	1.46	.51	27	1.11	.32	49	2.950	.005**
19.	24	1.71	.55	27	1.67	.48	49	.289	.774
20.	24	1.29	.46	27	1.81	.40	49	-4.343	.000**
21.	24	1.13	.34	27	1.11	.32	49	.151	.881
22.	24	1.46	.51	27	1.93	.27	49	-4.175	.000**
23.	24	1.67	.48	27	1.37	.49	49	2.168	.036*
24.	24	1.54	.59	27	1.85	.36	49	-2.296	.126
25.	24	1.38	.58	27	1.81	.40	49	-3.208	.002**
26.	24	1.33	.48	27	1.52	.51	49	-1.330	.190
27.	24	1.17	.38	27	1.11	.32	49	.566	.574

Table 3 - *Continued.*

Questionnaire	<u>Eating Disorder</u>			<u>Non-Eating Disorder</u>			<i>df</i>	<i>t</i>	<i>Significance</i>
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>			
28.	24	1.46	.51	27	1.78	.42	49	-2.445	.018*
29.	24	1.08	.28	27	1.30	.47	49	-1.945	.058
30.	24	1.71	.46	27	1.93	.27	49	-2.080	.043*
31.	24	1.12	.34	27	1.48	.58	49	-2.638	.011**
32.	24	1.42	.50	27	1.67	.48	49	-1.813	.076
33.	24	1.17	.56	27	1.33	.48	49	-1.139	.260
34.	24	1.71	.55	27	1.48	.58	49	1.429	.159
35.	24	1.79	.41	27	1.37	.49	49	3.283	.002**
36.	24	1.96	.20	27	1.67	.48	49	2.759	.008**
37.	24	1.75	.44	27	1.63	.49	49	.914	.365
38.	24	1.50	.59	27	1.59	.57	49	-.568	.572
39.	24	1.96	.20	27	1.81	.40	49	1.596	.117
40.	24	1.33	.48	27	1.11	.32	49	1.960	.056
41.	24	1.33	.56	27	1.78	.42	49	-3.201	.002**
42.	24	1.54	.51	27	1.89	.32	49	-2.950	.005**
43.	24	1.29	.55	27	1.37	.49	49	-.539	.592
44.	24	1.79	.41	27	1.89	.32	49	-.942	.351
45.	24	1.75	.44	27	1.59	.50	49	.183	.242
46.	24	.96	.20	27	1.26	.53	49	-2.631	.011**
47.	24	1.17	.38	27	1.41	.50	49	-1.914	.061
48.	24	1.75	.44	27	1.44	.51	49	2.282	.027*
49.	24	1.38	.77	27	1.56	.58	49	-.954	.345
50.	24	1.54	.66	27	1.41	.50	49	.825	.413
51.	24	1.25	.53	27	1.63	.49	49	-2.648	.011**
52.	24	1.42	.58	27	1.48	.51	49	-.424	.674
53.	24	1.75	.44	27	1.48	.58	49	1.841	.072
54.	24	1.92	.28	27	1.78	.51	49	1.189	.240
55.	24	1.58	.50	27	1.37	.49	49	1.526	.134
56.	24	1.29	.46	27	1.81	.40	49	-4.343	.000**
57.	24	1.33	.48	27	1.78	.42	49	-3.507	.001**
58.	24	1.29	.55	27	1.70	.47	49	-2.898	.006**
59.	24	1.38	.58	27	1.70	.47	49	-2.253	.029*
60.	24	1.21	.41	27	1.63	.49	49	-3.283	.002**
61.	24	1.13	.34	27	1.56	.51	49	-3.524	.001**
62.	24	1.46	.51	27	1.74	.45	49	-2.111	.040*
63.	24	1.21	.41	27	1.52	.51	49	-2.366	.022*
64.	24	1.17	.38	27	1.59	.50	49	-3.386	.001**
65.	24	1.75	.53	27	1.48	.51	49	1.841	.072
66.	24	1.38	.49	27	1.37	.49	49	.033	.973
67.	24	1.42	.50	27	1.56	.51	49	-.980	.332

Table 3 - *Continued.*

Questionnaire	<u>Eating Disorder</u>			<u>Non-Eating Disorder</u>					
Item #	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>df</i>	<i>t</i>	<i>Significance</i>
70.	24	1.75	.53	27	1.48	.51	49	1.841	.072
71.	24	1.75	.44	27	1.41	.50	49	2.575	.013*
72.	24	1.33	.56	27	1.74	.45	49	-2.873	.006**
73.	24	1.50	.51	27	1.70	.47	49	-1.490	.143
74.	24	1.33	.48	27	1.78	.42	49	-3.057	.001**
75.	24	1.17	.38	27	1.56	.51	49	-3.068	.004**
76.	24	1.17	.38	27	1.63	.49	49	-3.723	.001**
77.	24	1.46	.51	27	1.59	.50	49	-.948	.348
78.	24	1.58	.50	27	1.10	.49	49	2.879	.006**
80.	24	1.17	.38	27	1.63	.49	49	-3.723	.001**
81.	24	1.17	.48	27	1.70	.47	49	-4.047	.000**
82.	24	1.67	.56	27	1.63	.49	49	.250	.803
83.	24	1.17	.38	27	1.30	.47	49	-1.080	.285
84.	24	1.67	.56	27	1.70	.54	49	-.239	.812
85.	24	1.54	.51	27	1.85	.36	49	-2.529	.015*
86.	24	1.58	.58	27	1.33	.48	49	1.677	.100
87.	24	1.46	.59	27	1.81	.40	49	-2.507	.016*
88.	24	1.50	.51	27	1.85	.36	49	-2.862	.006**
89.	24	1.21	.51	27	1.56	.51	49	-2.438	.018*
90.	24	1.33	.48	27	1.67	.48	49	-2.471	.017*

Note. **Significance criterion = 0.01

*Significance criterion = 0.05

True response = 1; False response = 2

TABLE 4

GROUP STATISTICS BY EDI-2 CLASSIFICATION

Item #	<u>Eating Disorder</u>			<u>Non-Eating disorder</u>			<i>df</i>	<i>t</i>	<i>Significance</i>
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>			
1.	22	1.27	.46	23	1.00	.00	43	2.871	.006**
2.	22	1.77	.43	23	1.00	.00	43	1.781	.082
3.	22	1.77	.43	23	1.35	.49	43	3.100	.003**
4.	22	1.64	.49	23	1.22	.42	43	3.070	.004**
5.	22	1.50	.51	23	1.17	.39	43	2.417	.020*
6.	22	1.45	.51	23	1.96	.21	43	-4.359	.000**
7.	22	1.27	.46	23	1.91	.29	43	-5.659	.000**

Table 4 - *Continued.*

Item #	<u>Eating Disorder</u>			<u>Non-Eating disorder</u>			df	t	Significance
	N	Mean	SD	N	Mean	SD			
9.	22	1.32	.48	23	1.83	.39	43	-3.930	.000**
10.	22	1.45	.41	23	1.87	.34	43	-3.214	.002**
11.	22	1.27	.46	23	1.78	.42	43	-3.897	.000**
12.	22	1.23	.43	23	1.74	.45	43	-3.907	.000**
13.	22	1.41	.50	23	1.87	.34	43	-3.596	.001**
14.	22	1.64	.49	23	1.09	.42	43	4.046	.000**
15.	22	1.32	.48	23	1.78	.42	43	-3.465	.001**
16.	22	1.86	.35	23	1.74	.45	43	1.033	.307
17.	22	1.14	.35	23	1.52	.51	43	-2.936	.005**
18.	22	1.55	.51	23	1.09	.29	43	3.736	.001**
19.	22	1.86	.35	23	1.65	.49	43	1.664	.103
20.	22	1.32	.48	23	1.87	.34	43	-4.463	.000**
21.	22	1.09	.29	23	1.17	.39	43	.806	.424
22.	22	1.45	.51	23	1.91	.29	43	-3.736	.001**
23.	22	1.73	.46	23	1.30	.47	43	3.060	.004**
24.	22	1.59	.50	23	1.91	.29	43	-2.650	.011*
25.	22	1.41	.50	23	1.83	.39	43	-3.123	.003**
26.	22	1.32	.48	23	1.52	.51	43	-1.381	.175
27.	22	1.23	.43	23	1.09	.29	43	1.293	.203
28.	22	1.50	.51	23	1.83	.39	43	-2.417	.020*
29.	22	1.05	.21	23	1.35	.49	43	-2.676	.010**
30.	22	1.73	.46	23	1.96	.21	43	-2.185	.034*
31.	22	1.09	.29	23	1.61	.58	43	-3.734	.001**
32.	22	1.36	.49	23	1.78	.42	43	-3.070	.004**
33.	22	1.23	.43	23	1.35	.57	43	-.796	.430
34.	22	1.77	.43	23	1.43	.59	43	2.190	.034*
35.	22	1.77	.43	23	1.39	.50	43	2.744	.009**
36.	22	1.95	.21	23	1.61	.50	43	2.998	.004**
37.	22	1.73	.46	23	1.65	.49	43	.533	.596
38.	22	1.64	.49	23	1.57	.59	43	.438	.663
39.	22	1.95	.21	23	1.87	.34	43	.990	.328
40.	22	1.32	.48	23	1.09	.29	43	1.979	.054
41.	22	1.36	.58	23	1.74	.45	43	-2.432	.019*
42.	22	1.55	.51	23	1.91	.29	43	-2.991	.005**
43.	22	1.36	.58	23	1.35	.49	43	.099	.922
44.	22	1.77	.43	23	1.91	.29	43	-1.293	.203
45.	22	1.68	.48	23	1.61	.50	43	.502	.618
46.	22	1.05	.21	23	1.26	.54	43	-1.743	.089
47.	22	1.18	.39	23	1.39	.50	43	-1.557	.127
48.	22	1.82	.39	23	1.43	.51	43	2.822	.007**
49.	22	1.45	.67	23	1.43	.66	43	.099	.921

Table 4 - *Continued.*

Item #	<u>Eating Disorder</u>			<u>Non-Eating disorder</u>			<i>df</i>	<i>t</i>	<i>Significance</i>
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>			
50.	22	1.64	.58	23	1.35	.49	43	1.808	.078
51.	22	1.27	.55	23	1.65	.49	43	-2.452	.018*
52.	22	1.55	.51	23	1.48	.51	43	.442	.661
53.	22	1.82	.39	23	1.43	.59	43	2.551	.014*
54.	22	1.91	.29	23	1.74	.54	43	1.301	.200
55.	22	1.59	.50	23	1.30	.47	43	1.974	.055
56.	22	1.27	.46	23	1.87	.34	43	-4.970	.000**
57.	22	1.27	.46	23	1.83	.39	43	-4.394	.000**
58.	22	1.27	.46	23	1.78	.42	43	-3.897	.000**
59.	22	1.32	.48	23	1.78	.42	43	-3.465	.001**
60.	22	1.23	.43	23	1.74	.45	43	-3.907	.000**
61.	22	1.18	.39	23	1.52	.51	43	-2.490	.017*
62.	22	1.41	.50	23	1.78	.42	43	-2.703	.010**
63.	22	1.23	.43	23	1.48	.51	43	-1.781	.082
64.	22	1.18	.39	23	1.65	.49	43	-3.550	.001**
65.	22	1.91	.29	23	1.43	.41	43	3.816	.000**
66.	22	1.36	.49	23	1.39	.50	43	-.187	.852
67.	22	1.36	.49	23	1.61	.50	43	-1.658	.105
70.	22	1.95	.21	23	1.39	.50	43	4.883	.000**
71.	22	1.77	.43	23	1.39	.50	43	2.744	.009**
72.	22	1.36	.49	23	1.83	.39	43	-3.510	.001**
73.	22	1.45	.51	23	1.83	.30	43	-2.760	.008**
74.	22	1.27	.46	23	1.91	.29	43	-5.659	.000**
75.	22	1.09	.29	23	1.65	.49	43	-4.563	.000**
76.	22	1.18	.30	23	1.70	.47	43	-3.960	.000**
77.	22	1.36	.49	23	1.70	.47	43	-2.313	.026*
78.	22	1.68	.48	23	1.13	.46	43	3.958	.000**
80.	22	1.23	.43	23	1.61	.50	43	-2.744	.009**
81.	22	1.14	.35	23	1.78	.42	43	-5.573	.000**
82.	22	1.64	.58	23	1.70	.47	43	-.377	.708
83.	22	1.14	.35	23	1.30	.47	43	-1.352	.183
84.	22	1.77	.43	23	1.74	.54	43	.230	.819
85.	22	1.55	.51	23	1.87	.34	43	-2.510	.016*
86.	22	1.59	.50	23	1.35	.49	43	1.647	.107
87.	22	1.45	.51	23	1.91	.29	43	-3.736	.001**
88.	22	1.45	.51	23	1.91	.29	43	-3.736	.001**
89.	22	1.27	.46	23	1.57	.51	43	-2.032	.048
90.	22	1.27	.46	23	1.78	.42	43	-3.897	.000**

Note. **Significance criterion = 0.01

*Significance criterion = 0.05

True response = 1; False response = 2

questionnaire. The t statistic reveals a significant difference between the mean scores suggesting that as a subscale, these 87-items are able to significantly differentiate between eating-disordered and non-eating-disordered subjects.

Step 3 entailed determining each item's correlation with the total scale using 0.33 (Gable & Wolf, 1993) as a cut-off for scale revision. Sixty-eight items were retained. As shown in Table 6, the Cronbach's reliability coefficient for the 87-item subscale 0.963. Table 6 contains the item analysis for Step 3.

Items which did not meet the 0.33 correlation criterion were eliminated in Step 4 which resulted in a revised 68-item proposed eating-disorder subscale. In Step 5 the means were calculated for eating-disordered and non-eating-disordered diagnostic groups using only the 68 items retained in the questionnaire and statistical significance was maintained. Table 7 is a summary of Step 5.

The item analysis for the 68-item questionnaire is found on Table 8. The item-total correlation ranged from 0.345 to 0.760. The total scale reliability is 0.971 which suggests that there is high agreement among the 68 items and that they are measuring a common underlying construct. See Appendix H for item content. I also looked at the distribution of eating-disorder scores and non-eating-disorder scores and observed that there is considerable overlap. Figure 1 illustrates the overlap. Figure 2 shows the group means and standard deviations for the 68-item questionnaire as they would appear in a normal distribution. Again, overlap is evident and caution should be exercised in terms of diagnosing an eating disorder when the score is in the overlap area.

TABLE 5
GROUP MEANS FOR 87-ITEM QUESTIONNAIRE

Group	<i>N</i>	Mean	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Probability</i>
Eating Disorder	23	56.565	14.441	5.273	48	0.000
Non-eating Disorder	27	32.111	17.799			

Summary

The results of this research are indicative of the efficacy of utilizing the MMPI-2 to screen for eating disorders. In Phase 1, 127 MMPI items of the original 566 MMPI items differentiated eating-disordered ($n = 354$) from non-eating-disordered subjects ($n = 238$). The mean age in this sample was 26.05 for the eating-disordered group and 31.92 for the non-eating-disordered group with 10.3% missing age data. In Phase 2, four expert judges were requested to identify items which they believed were characteristic of eating disorders. Items were retained when three out of four judges agreed upon the item and the likely eating-disordered response to the item. In this way, the 127 items were reduced to 87, which was deemed less cumbersome. Phase 3, the cross-validation was undertaken using the proposed eating-disordered 87-item subscale and the EDI-2. Eating-disordered ($n = 24$) and non-eating-disordered ($n = 27$) subjects were identified by their therapists and completed the questionnaires.

TABLE 6

CORRECTED ITEM-TOTAL CORRELATION ANALYSIS
FOR THE 87-ITEM SUBSCALE

Item #	Correlation	Alpha	Item #	Correlation	Alpha
1.	0.284	0.963	37.	0.347*	0.963
2.	0.507*	0.964	38.	0.038	0.964
3.	0.450*	0.963	39.	0.261	0.963
4.	0.609*	0.963	40.	0.395*	0.963
5.	0.436*	0.963	41.	0.495*	0.962
6.	0.486*	0.962	42.	0.604*	0.962
7.	0.702*	0.962	43.	0.177	0.963
8.	0.186	0.963	44.	0.294	0.963
9.	0.630*	0.062	45.	0.034	0.964
10.	0.473*	0.963	46.	0.529*	0.962
11.	0.659*	0.962	47.	0.357*	0.963
12.	0.758*	0.962	48.	0.578*	0.962
13.	0.538*	0.962	49.	-0.223	0.964
14.	0.657*	0.962	50.	0.245	0.963
15.	0.637*	0.962	51.	0.537*	0.962
16.	0.398*	0.962	52.	0.302	0.963
17.	0.672*	0.962	53.	0.478*	0.963
18.	0.658*	0.962	54.	0.192	0.963
19.	0.433*	0.963	55.	0.555*	0.962
20.	0.514*	0.962	56.	0.612*	0.962
21.	0.146	0.963	57.	0.556*	0.962
22.	0.654*	0.962	58.	0.722*	0.962
23.	0.689*	0.962	59.	0.625*	0.962
24.	0.438*	0.963	60.	0.705*	0.962
25.	0.599*	0.962	61.	0.530*	0.962
26.	0.425*	0.963	62.	0.669*	0.962
27.	0.179	0.963	63.	0.358*	0.963
28.	0.520*	0.962	64.	0.687*	0.962
29.	0.517*	0.962	65.	0.482*	0.963
30.	0.388*	0.963	66.	0.200	0.963
31.	0.766*	0.962	67.	0.437*	0.963
32.	0.512*	0.962	70.	0.676*	0.962
33.	-0.124	0.964	71.	0.654*	0.962
34.	0.497*	0.962	72.	0.553*	0.962
35.	0.436*	0.963	73.	0.518 *	0.962
36.	0.566*	0.962	74.	0.752*	0.962

TABLE 6-Continued.

Item #	Correlation	Alpha	Item #	Correlation	Alpha
75.	0.727*	0.962	84.	0.065	0.963
76.	0.639*	0.962	85.	0.184	0.963
77.	0.567*	0.962	86.	0.484*	0.963
78.	0.580*	0.963	87.	0.699*	0.962
80.	0.477*	0.963	88.	0.607*	0.962
81.	0.679*	0.962	89.	0.537*	0.962
82.	0.214	0.963	90.	0.554*	0.962
83.	0.176	0.963			

Note. Item correlation criterion = 0.33

Item # refers to item # on the questionnaire in Appendix G

Alpha = reliability if item is deleted

TABLE 7

DIAGNOSTIC GROUP MEANS FOR 68-ITEM PROPOSED SUBSCALE

Group	<i>N</i>	Mean	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Probability</i>
Eating Disorder	23	46.0	13.76	5.231	48	0.000
Non-eating Disorder	27	23.15	16.65			

The mean age of the eating-disordered group was 33.33 and the mean age of the non-eating-disordered group was 38.15, with only one case of missing data. The results of Phase 3 were somewhat disappointing as not all of the 87 items identified during Phases 1 and 2 differentiated the two groups when analyzed by empirical keying (34 items by diagnostic group and 46 items by EDI-2 classification). This is perhaps due to the

Phase 1 eating-disordered sample being taken from individuals just entering treatment whereas the Phase 3 eating-disordered sample contained individuals who have been in treatment for several months, and in some cases, years. Scoring and finalization of the proposed MMPI-2 eating-disorder subscale were done in Phase 4. Of the 87 items identified in Phase 2 of this study, 17 did not meet the 0.33 correlation coefficient criterion and were thus eliminated. The remaining 68 items performed very well as evidenced by their ability to differentiate between eating-disordered and non-eating-disordered subjects as well as being highly internally consistent.

TABLE 8

CORRECTED ITEM-TOTAL CORRELATION COEFFICIENT FOR FINALIZED
MMPI-2 PROPOSED EATING-DISORDER SUBSCALE

Item #	Correlation	Alpha	Item #	Correlation	Alpha
2.	0.497	0.970	46.	0.548	0.970
3.	0.464	0.971	47.	0.345	0.971
4.	0.619	0.970	48.	0.577	0.970
5.	0.444	0.971	51.	0.533	0.970
6.	0.497	0.970	53.	0.484	0.970
7.	0.707	0.970	55.	0.571	0.970
9.	0.635	0.970	56.	0.615	0.970
10.	0.469	0.971	57.	0.594	0.970
11.	0.684	0.970	58.	0.734	0.970
12.	0.753	0.970	59.	0.622	0.970
13.	0.550	0.970	60.	0.714	0.970
14.	0.682	0.970	61.	0.524	0.970
15.	0.678	0.970	62.	0.664	0.970
16.	0.381	0.971	63.	0.358	0.971
17.	0.661	0.970	64.	0.696	0.970
18.	0.676	0.970	65.	0.458	0.971
19.	0.396	0.971	67.	0.439	0.971
20.	0.492	0.970	70.	0.657	0.970
22.	0.660	0.970	71.	0.663	0.970
23.	0.702	0.970	72.	0.559	0.970
24.	0.440	0.971	73.	0.510	0.970
25.	0.628	0.971	74.	0.754	0.970
26.	0.454	0.971	75.	0.719	0.970
28.	0.509	0.970	76.	0.635	0.970
29.	0.501	0.970	77.	0.553	0.970
30.	0.388	0.971	78.	0.558	0.970
31.	0.760	0.970	80.	0.507	0.970
32.	0.497	0.970	81.	0.666	0.970
34.	0.492	0.970	86.	0.495	0.970
35.	0.441	0.971	87.	0.709	0.970
36.	0.563	0.970	88.	0.630	0.970
37.	0.356	0.971	89.	0.557	0.970
40.	0.403	0.971	90.	0.543	0.970
41.	0.605	0.970			
42.	0.605	0.970			

Note. Alpha = reliability if item deleted

TABLE 9

COMPILATION OF PHASE 3 RESULTS WITH 68-ITEM QUESTIONNAIRE

68- Item #	Diagnostic Category	EDI-2 Classification	68- Item #	Diganostic Category	EDI-2 Classification
2.			42.	**	++
3.	*	++	46.	**	
4.		++	47.		
5.		+	48.	*	++
6.	**	++	51.	**	+
7.	**	++	53.		+
9.	**	++	55.		
10.	**	++	56.	**	++
11.	**	++	57.	**	++
12.	**	++	58.	**	++
13.	**	++	59.	*	++
14.	**	++	60.	**	++
15.	**	++	61.	**	+
16.			62.	*	++
17.	*	++	63.	*	
18.	**	++	64.	**	++
19.			65.		++
20.	**	++	67.		
22.	**	++	70.		++
23.	*	++	71.	*	++
24.		+	72.	**	++
25.	**	++	73.		++
26.			74.	**	++
28.	*	+	75.	**	++
29.		++	76.	**	++
30.	*	+	77.		+
31.	**	++	78.	**	++
32.		++	80.	**	++
34.		+	81.	**	++
35.	**	++	86.		
36.	**	++	87.	*	++
37.			88.	**	++
40.			89.	*	
41.	**	+	90.	*	++

Note. Dx: ** Significance criterion = .01; *Significance criterion = .05

EDI-2 Classification: ++Significance criterion = .01; +Significance criterion = .05

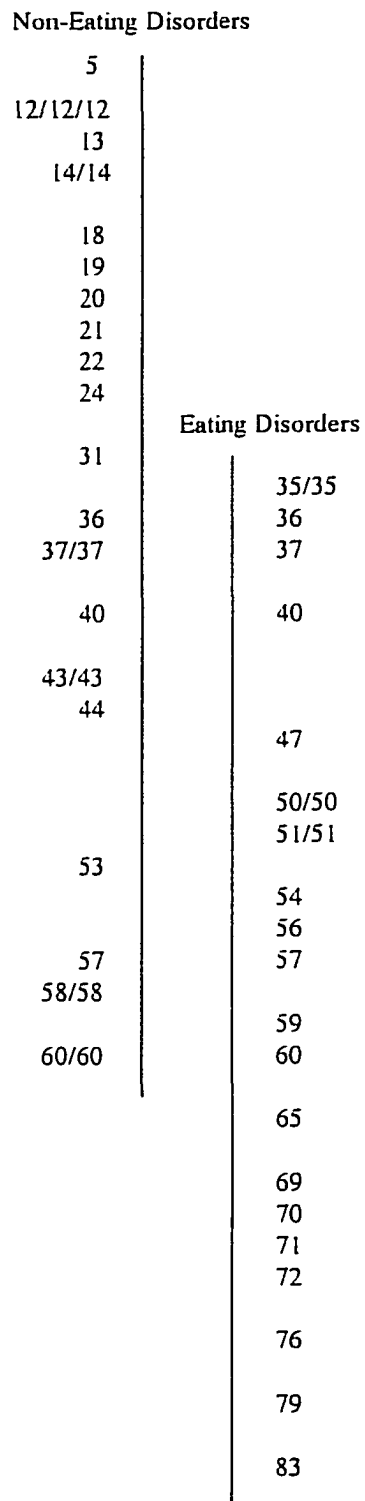


Figure 1. Overlap of eating disorder and non-eating disorder scores in cross-validation.

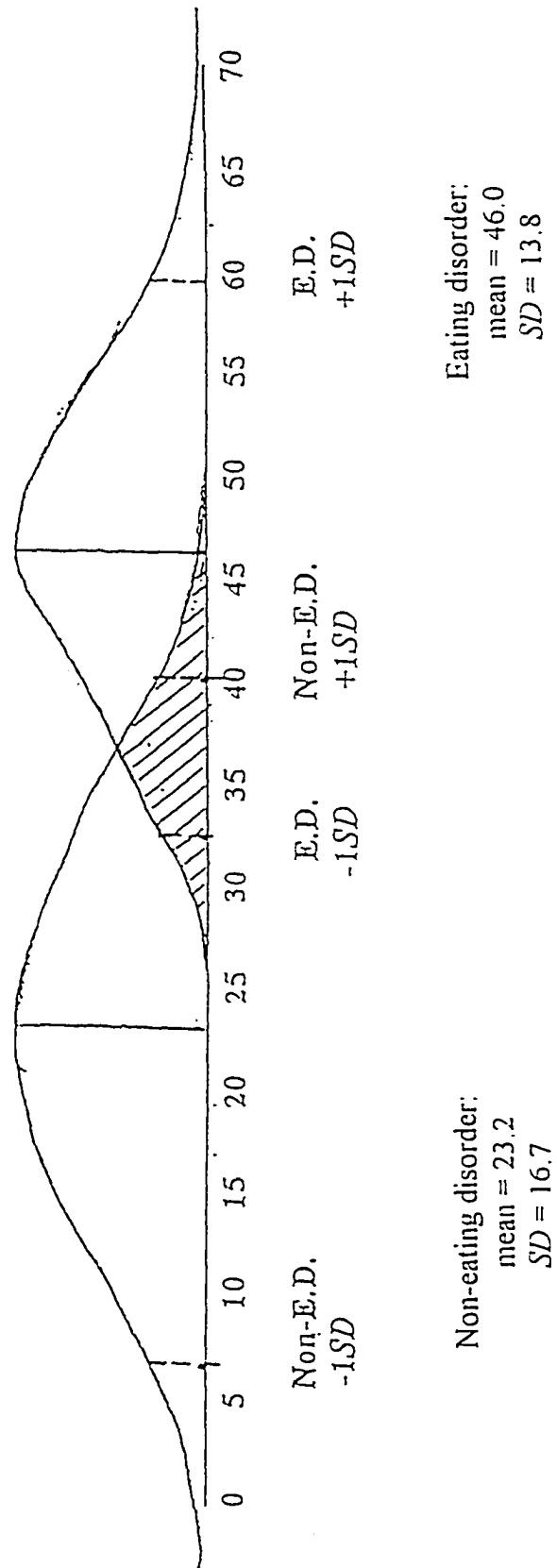


Figure 2. Phase 4: 68-item questionnaire group means.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter summarizes the research problem, the significance of the study, the research methodology, and the results. Explanations are given as to why the results that were derived in each phase were obtained. Recommendations for mental-health practitioners are delineated. Lastly, recommendations for further research are given.

Restatement of the Problem

Eating disorders are life-threatening disorders which have been infiltrating the lives of American females for many years. It is estimated that 5 million Americans suffer from anorexia nervosa or bulimia nervosa (Hotelling, 1998). The problem has been escalating throughout the second half of this century. Mental-health practitioners are limited in their ability to screen for these disorders at an early stage for several reasons. First, due to limitations placed on them by insurance and managed-care companies, mental-health professionals may not have authorization to assess for eating disorders. (Many insurance policies will not even cover treatment for anorexia and bulimia.) Second, assessment instruments in existence today are largely transparent and symptom-based. These transparent and symptom-based instruments allow for client denial and minimization which may render diagnosis inconclusive. Third,

eating-disorder assessment is not undertaken unless there is significant evidence that it is warranted. Eating-disordered individuals are generally very adept at concealing the illness, and frequently no assessment is pursued. Fourth, many counselors and therapists are simply not adequately informed about the subtleties of eating-disorder signs and symptoms and miss the indicators completely. Lastly, clients who are not deemed to be in the at-risk population (e.g., Caucasian, female, middle to upper-middle class, adolescent or young adult) are frequently overlooked in terms of the eating-disordered symptoms. Hence, eating-disordered individuals may go untreated or ineffectively treated for years.

The MMPI-2 is the most widely utilized psychological instrument administered by mental-health professionals (Greene, 1990b). An elevated score on this proposed subscale would alert clinicians to undertake a full eating-disorder assessment or refer the client to someone with specialized training in eating disorders even in the absence of overt symptomatology.

Summary

Methodology

Sample

The methodology for this study involved scale development and included four phases: initial study (Phase 1), expert judges (Phase 2), cross-validation (Phase 3), and finalization of proposed subscale (Phase 4). Research samples were used for Phase 1 and Phase 3. In both phases the sample was divided into two distinct groups: eating-

disordered and non-eating-disordered. The eating-disordered group for Phase 1 ($n = 354$) came from the files of the HOPE program of Memorial Hospital in South Bend, Indiana, and the non-eating-disordered group ($n = 238$) came from the files of PFC in Elkhart, Indiana. In Phase 3, the eating-disordered sample ($n = 24$) and the non-eating-disordered sample ($n = 27$) were obtained from the clinical case loads from area mental-health practitioners.

Instrumentation

The instrument used for Phase 1 of this study was the MMPI. The MMPI, developed by Hathaway and McKinley in 1943, is an objective personality inventory composed of 566 true-false items and was designed to diagnose patients into different categories of neuroses and psychoses. The instrument is now used in its revised form, MMPI-2, which was normed on a more representative sample than the MMPI and which omitted items believed to be objectionable. The MMPI-2, similar to the MMPI, has been widely researched and is widely known (Graham, 1990, 1993). Currently, the MMPI-2 is used in mental-health settings, hospital psychiatric units, university counseling centers, employment and career centers, and in industrial settings. Additionally, much of the research involving the MMPI is applicable to the revised MMPI-2 (Graham, 1990, 1993).

The cross-validation portion of this study, Phase 3, utilized the proposed 87-item questionnaire and the Eating Disorder Inventory-2 (EDI-2). The EDI-2, developed by Garner (1990), is aimed at the delineation and measurement of

psychological features or symptom clusters thought to be relevant in understanding eating disorders. It contains measurement on eight subscales: drive for thinness (DT), bulimia (B), body dissatisfaction (BD), ineffectiveness (I), perfectionism (P), interpersonal distrust (ID), interoceptive awareness (IA), maturity fears (MF), and three provisional subscales: asceticism (A), impulse regulation (IR), and social insecurity (SI). It was used in this stage of the scale development as a cross-check for therapist diagnosis of eating disorder or no eating disorder.

Research Procedures

In Phase 1: the initial study, 354 eating-disorder patients' MMPI answer sheets and 238 non-eating-disordered patients' MMPI answer sheets were analyzed by individual *t*-tests for each of the 566 items. One hundred twenty-seven MMPI items appear in the MMPI-2 and also met the statistical criterion of .01, indicating that those items differentiate eating-disordered subjects from non-eating-disordered subjects.

In Phase 2: expert judges, four eating-disorder experts reviewed the 127 MMPI-2 items which statistically differentiated eating-disordered from non-eating-disordered patients and selected those items which they deemed to be characteristic of eating disorders. Three out of four judges had to agree on an item in two aspects before that item could be included in the questionnaire. First, the item had to be judged as characteristic of eating disorders. Second, the judges had to agree whether or not an item would receive a True response or a False response by an eating-disordered individual. Eighty-seven items met the criterion and comprised the proposed eating-

disorder questionnaire to be used in Phase 3 of this scale development.

In Phase 3: the cross-validation, the 87-item eating-disorder questionnaire and the EDI-2 were administered to a new research sample of eating-disordered and non-eating-disordered patients. The two groups' responses were compared by empirical keying to determine if the 87 items do indeed differentiate eating-disordered from non-eating-disordered individuals.

Phase 4: finalization of proposed eating-disorder subscale, involved scoring the 87 items from the Phase 3 sample of eating-disordered and non-eating-disordered subjects. Means and standard deviations of the raw scores were calculated and statistical significance computed. Additionally, each item was analyzed as to its correlation with the total, and those not meeting the 0.33 criterion were eliminated. New means and standard deviations were sought. Phase 4 resulted in the proposed MMPI-2 eating-disorder subscale being finalized.

Results

The results of this research are indicative of the efficacy of utilizing the MMPI-2 to screen for eating disorders. In Phase 1, 127 MMPI items of the original 566 MMPI items differentiated eating-disordered ($n = 354$) from non-eating-disordered ($n = 238$) subjects at the .01 criterion. The mean age in this sample was 26.05 for the eating-disordered group and 31.92 for the non-eating-disordered group with 10.3% missing age data.

In Phase 2, four expert judges were asked to identify items which they thought

were characteristic of eating disorders. Each item on which three out of four judges agreed was a likely eating-disordered response was retained. Forty items were eliminated bringing the 127-item questionnaire to 87 items.

In Phase 3, the cross-validation, the mean age of the eating-disordered group was 33.33 and the mean age of the non-eating-disordered group was 38.15 with only one case of missing data. Phase 3 resulted in a discrepancy between grouping subjects by therapist's DSM-IV diagnosis and grouping subjects by EDI-2 classification. When grouped by therapist's diagnosis there were 34 items which differentiated the eating-disordered group from the non-eating-disordered group. On the other hand, when grouped by EDI-2 classification, there were 46 items which differentiated the eating-disordered and non-eating-disordered groups at the .01 level.

In Phase 4, scoring and finalization of the proposed MMPI-2 eating-disorder subscale was done. Of the 87 items identified in Phase 2 of this study, 17 did not meet the 0.33 correlation coefficient criterion and were thus eliminated. The remaining 68 items performed very well, as evidenced by its high internal consistency and its ability to differentiate between eating-disordered subjects and non-eating-disordered subjects.

Discussion

Phase 1: Initial Study

The results of Phase 1, in which 140 MMPI items (reduced to 127 MMPI-2 items) statistically differentiated eating-disordered from non-eating-disordered subjects, were not surprising due to the fact that the MMPI was developed to assess abnormal

thoughts, attitudes, and behavior. Eating-disordered symptoms and characteristics envelope multiple abnormal psychological features which can be measured on the MMPI. Psychological characteristics of eating disorders are shared by other psychological illnesses and have been researched and assessed by the MMPI. The most notable of the eating-disordered characteristics shared by other psychological illnesses are depression, anxiety, and somatic complaints. Thus, to find a large number of items which tap into eating-disordered characteristics was anticipated.

It is my opinion that the factor analysis was inconsequential because eating-disordered symptomatology is all-pervasive, complex, and permeates all areas of the individual's life. Hence, high factor loadings in the SPSS-generated 6-factor solution included items from diverse conceptual domains rather than items describing a single factor. Because the factors made no logical sense regardless of how many factor solutions were attempted, and because I desired a less lengthy and cumbersome measure than the 127 items in Phase 1, the Phase 2 87-item questionnaire was implemented.

Phase 2: Expert Judges

The four expert judges consisted of three females and one male. They also could be identified as one eating-disorder psychological evaluator, one eating-disorder researcher, and two eating-disorder clinicians. None of the expert judges themselves is recovering from an eating disorder. The judges' responses given to the 127-item questionnaire were interesting. The eating-disorder psychological evaluator was the

only male judge, and he included 28 of the 127 items as indicative of eating-disordered characteristics. The eating-disorder researcher, who was an expert judge, has limited direct experience with treating eating disorders and endorsed 102 of the 127 items as being indicative of eating-disordered characteristics. The eating-disorder clinician from the Northern Arizona University Counseling and Testing Center, and the eating-disorder therapist and director of the HOPE program, endorsed 117 and 119 of the 127 items, respectively. As a researcher, clinician, and recovering anorexic myself, I found my responses (not taken into consideration for this study) to be similar to those of the clinicians who have the most direct involvement with eating-disordered patients. This serendipitous finding leads me to believe that perhaps when evaluation and research are devoid of on-going, personal contact with the eating-disordered individual, much of the complexity and subtleties are overlooked. Another explanation of the differences in the number of endorsed items could have to do with gender. The question arises: Could it be that males, even males educated in eating disorders, are less inclined to view the multiplicity of eating-disorder symptoms? Alternatively, could female eating-disorder specialists be overly sensitive or over-identify with the eating-disorder symptomatology? Obviously, the results of four experts in eating disorders are not sufficient to draw conclusions but they could generate some interesting hypotheses for future studies.

Phase 3: Cross-validation

Seventy-five percent concurrence of the judges in terms of inclusion and

expected eating-disordered response was necessary for an item to be retained in the eating-disorder questionnaire. Eighty-seven items remained to make up the eating-disorder questionnaire to be used in Phase 3. Phase 3, the cross-validation, did not produce the desired result, that is, the 87 items on the questionnaire derived from Phases 1 and 2 did not all differentiate eating disorders from non-eating disorders at the .01 level. Additionally, a complication was discovered when several subjects, who were diagnosed eating-disordered by their therapists using DSM-IV criteria, did not exhibit eating-disordered characteristics on the EDI-2. This eating-disorder diagnostic group with non-eating-disordered, or ambiguous EDI-2 profiles, is probably due to the length of time and the intensity of the eating-disorder treatment process. Many of the subjects had been in treatment for their eating disorders for several years and had made significant psychological gains but who, nevertheless, are diagnosed with anorexia nervosa or bulimia nervosa. Additionally, because the EDI-2 is comprised of items which are very obvious in terms of eating-disordered attitudes, thoughts, and behaviors, some subjects may have answered in the "healthy" direction in order to please the therapist or researcher or may have merely denied their symptoms.

Similarly, several non-eating-disordered subjects obtained profiles on the EDI-2 which were consistent with eating-disordered symptomatology. This phenomenon exemplifies the possibility of therapists overlooking the eating-disordered signs and symptoms which are often covert and subtle. Eating-disordered patients are also very adept at denying or covering up symptoms during interview which may make eating issues difficult to detect. Additionally, eating-disordered subjects may have had other

significant pathology which deterred the therapist from detecting the eating-disordered problems. These explanations give support to the saliency of this research whereby eating disorders can be screened by a less targeted and a less symptom-specific instrument. In this way, eating-disordered individuals may be helped sooner.

Other factors which may have contributed to the discrepancy between Phase 1 and Phase 3 results may be the age of the subjects and the time span. In both phases, the eating-disordered sample is 5 years younger than the non-eating-disordered sample. In Phase 1, however, the mean age of both groups is 28.46 whereas the mean age of both groups in Phase 3 is 36.84. It is possible that the maturity level of the Phase 3 sample may have slightly distorted the results. The time span in which the MMPI items were administered to eating-disordered and non-eating-disordered in Phase 1 was 1987-1995. In Phase 3, the items were administered to both groups during a limited time frame, January 15, 1999, to February 15, 1999. Although the MMPI and MMPI-2 have been widely researched in the past 50 years and have been found to be very stable, it is possible that the time lapse between administrations contributed to the difference in the Phase 1 and Phase 3 results. Last, it is also possible that the cross-validation subjects had a different test-taking attitude, due to the knowledge that they were participating in a research study, from the initial sample, which took the MMPI as a standard part of clinical assessment.

In retrospect, it might have been desirable to procure subjects for Phase 3 of this study who were just entering treatment for their eating disorders as was the case in Phase 1. This would not have totally resolved the possibility of approval-seeking

responses, but it would have corrected for the treatment dynamic. I did explore seeking subjects who were in the early stages of treatment by contacting numerous treatment centers throughout the country. I realized, however, that it would take several years to complete the study due to the reduced number of patients admitted to eating-disorder treatment facilities.

It seems prudent to also consider the discrepancy between the results of Phase 1: the initial study and Phase 3: the cross-validation as a strength of this proposed MMPI-2 eating-disordered subscale. In spite of the relative homogeneity of the two research groups, there were still significant differences between the eating-disordered subjects' responses and the non-eating-disordered subjects' responses. This suggests that even when there is similarity in symptomatology which is measured on this proposed MMPI-2 eating-disorder subscale, many items still differentiate eating-disordered females from non-eating-disordered females.

Phase 4: Finalization of Proposed Subscale

In Phase 4, items not meeting the 0.33 correlation criterion were eliminated, bringing the total number of items for the proposed MMPI-2 eating-disorder subscale to 68 items. Since Phase 4 was strictly statistical, explanation of the findings is not warranted.

Conclusions

The results of this research indicate the suitability of the MMPI-2 in screening for anorexia nervosa and bulimia nervosa. There appear to be items in the MMPI-2

which distinguish eating-disordered individuals from non-eating-disordered individuals. Some of the items make sense because of the salient characteristics of eating disorders, and the symptoms can be operationalized based on the literature review. While I was able to find items which discriminated eating disorders from non-eating disorders, the items, as a group, appear to be a global measure and do not identify specific factors. Further administrations of the proposed subscale are necessary on a larger sample size of eating-disordered patients in order to establish adequate psychometric properties.

Recommendations

Clinical Practice

Clinicians will need to be cautious about using this cluster of 68 items as an eating-disorder screening device at this stage in the development. However, I have undertaken several psychological evaluations in my practice in recent weeks (after the close of data collection) and have taken advantage of my research by administering this proposed questionnaire. In three of the cases, the female clients were asked to complete the 68-item questionnaire as a screening device even though the presenting problems were not directly eating-disorder related. Interestingly, each individual's score on the proposed MMPI-2 eating-disorder subscale was $\pm 1 SD$ of the eating disorder mean calculated in Phase 4. Upon further assessment, all three clients obtained scores on the EDI-2 that were indicative of eating disorders and admitted during interview that they were engaging in eating-disordered behaviors. I appreciate the clinical benefits that my research has already afforded me and hope that this

subscale will be further studied and made available to mental-health practitioners.

Future Research

There is no question that further research is necessary to establish reliability and validity for this proposed MMPI-2 eating-disorder subscale. Basic item identification for a subscale has been ascertained in the present study by using empirical keying, expert judges, correlations, and principal component analysis. The criteria for item inclusion or elimination has been stringent in each phase of this research. Future direction should include administering the instrument to a large number of eating-disordered individuals in the early stages of treatment and to a large number of non-eating-disordered individuals to determine if its differential ability is maintained. It would also be well to consider administering the MMPI-2 in its entirety to a new sample of eating-disordered and non-eating-disordered subjects to observe if the score on the eating-disordered items is affected when the items are incorporated into the whole MMPI-2.

More research needs to be undertaken to enhance the early detection and diagnosis of eating disorders. Because of the secretiveness and denial of anorexia nervosa and bulimia nervosa, the screening instruments, as opposed to the assessment instruments, need to address the subtle characteristics rather than the obvious. Early detection and intervention may enable women with these disorders to live healthier, happier, and more fulfilling lives.

APPENDIX A

DIAGNOSTIC CRITERIA

APPENDIX A-1

DSM-III EATING DISORDER DIAGNOSIS

DSM-III diagnostic criteria for Anorexia Nervosa (p. 69, 1980):

- A. Intense fear of becoming obese, which does not diminish as weight loss progresses.
- B. Disturbance of body image. e.g., claiming to "feel fat" even when emaciated.
- C. Weight loss of at least 25% of original body weight or, if under 18 years of age, weight loss from original body weight plus projected weight gain expected from growth charts may be combined to make the 25%.
- D. Refusal to maintain body weight over a minimal normal weight for age and height.
- E. No known physical illness that would account for the weight loss.

DSM-III diagnostic criteria for Bulimia (pp. 70-71, 1980):

- A. Recurrent episodes of binge eating (rapid consumption of a large amount of food in a discrete period of time, usually less than two hours).
- B. At least three of the following:
 - (1) consumption of high-caloric, easily ingested food during a binge
 - (2) inconspicuous eating during a binge
 - (3) termination of such eating episodes by abdominal pain, sleep, social interruption, or self-induced vomiting
 - (4) repeated attempts to lose weight by severely restrictive diets, self-induced vomiting, or use of cathartics or diuretics
 - (5) frequent weight fluctuations greater than ten pounds due to alternating binges or fasts
- C. Awareness that the eating pattern is abnormal and fear of not being able to stop eating voluntarily.
- D. Depressed mood and self-deprecating thoughts following eating binges.
- E. The bulimic episodes are not due to Anorexia Nervosa or any known physical disorder.

APPENDIX A-2

DSM-III-R EATING DISORDER DIAGNOSIS

DSM-III-R diagnostic criterion for Anorexia Nervosa are (p. 63-1987):

- A. Refusal to maintain body weight over a minimal normal weight for age and height, e.g., weight loss leading to maintenance of body weight 15 % below that expected; or failure to make expected weight gain during period of growth, leading to body weight 15 % below that expected.
- B. Intense fear of gaining weight or becoming fat, even though underweight.
- C. Disturbance in the way in which one's body weight, size, or shape is experienced, e.g., the person claims to "feel fat" even when emaciated, believes that one area of the body is "too fat" even when obviously underweight.
- D. In females, absence of at least three consecutive menstrual cycles when otherwise expected to occur (primary and secondary amenorrhea). (A woman is considered to have amenorrhea if her periods occur only following hormone, e.g., estrogen, administration).

DSM-III-R diagnostic criteria for Bulimia Nervosa are (p. 64, 1987):

- A. Recurrent episodes of binge eating (rapid consumption of a large amount of food in a discrete period of time).
- B. A feeling of lack of control over eating behavior during the eating binges.
- C. The person regularly engages in either self-induced vomiting, use of laxatives or diuretics, strict dieting or fasting, or vigorous exercise in order to prevent weight gain.
- D. A minimum average of two binge eating episodes a week for at least three months.
- E. Persistent overconcern with body shape and weight.

APPENDIX B

RESEARCH PERMISSION LETTERS

APPENDIX B-1



ANDREWS
University

November 4, 1998

Roscann Woodka
1340 Garland Rd
South Bend, IN 46614

Dear Roscann:

RE: APPLICATION FOR APPROVAL OF RESEARCH INVOLVING HUMAN SUBJECTS

HSRB Protocol # : 98-99 : 282	Application Type : <i>Original</i>	Dept : <i>Ed & Couns Psyc - 0104</i>
Review Category : <i>Exempt</i>	Action Taken : <i>Approved</i>	
Protocol Title : <i>Eating Disorders: Screening for Eating Disorders Utilizing the Minnesota Multiphasic Personality Inventory</i>		

On behalf of the Human Subjects Review Board (HSRB) I want to advise you that your proposal has been reviewed and approved. You have been given clearance to proceed with your research plans.

All changes made to the study design and/or consent form after initiation of the project require prior approval from the HSRB before such changes are implemented. Feel free to contact our office if you have any questions.

The duration of the present approval is for one year. If your research is going to take more than one year, you must apply for an extension of your approval in order to be authorized to continue with this project.

Some proposal and research designs may be of such a nature that participation in the project may involve certain risks to human subjects. If your project is one of this nature and in the implementation of your project an incidence occurs which results in a research-related adverse reaction and/or physical injury, such an occurrence must be reported immediately in writing to the Human Subjects Review Board. Any project-related physical injury must also be reported immediately to the University physician, Dr. Loren Hamel, by calling (616) 473-2222.

We wish you success as you implement the research project as outlined in the approved protocol.

Sincerely,

Human Subjects Review Board
c: Jimmy Kijai

Office of Scholarly Research, Graduate Dean's Office, (616) 471-6361
Andrews University, Berrien Springs, MI 49104-0640

APPENDIX B-2

Memorial

Hospital of South Bend

June 27, 1996

Roseann M. Woodka, M.S.
1340 Garland Road
South Bend, IN 46614

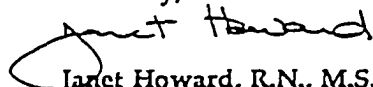
Dear Ms. Woodka:

This letter serves to acknowledge the receipt of the protocol, "Screening for Eating Disorders Utilizing MMPI-2". I have determined that the protocol qualifies for expedited review and therefore will not require review by the full IRB. I have, however, asked Deanna Kvietkis, Director of the Records Management Department to also review the protocol.

As Chair of the IRB, it is my pleasure to inform you that the protocol has been approved for a one year period, commencing June 27, 1996 and expiring June 26, 1997. Please be advised that a progress report will be required at the end of the period or at the conclusion of the study.

Again, thank you for your interest in conducting research at Memorial Hospital of South Bend. If you are in need of further assistance, please feel free to contact me at 284-3221.

Sincerely,



Janet Howard, R.N., M.S.N.
Chair, Institutional Review Board

JH/rhs

cc: Valerie Staples, Program Coordinator, HOPE
IRB Files

APPENDIX B-3

Memorial

Hospital of South Bend

May 20, 1997

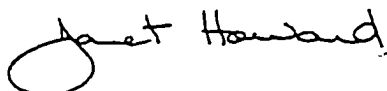
Roscann M. Woodka, M.S.
1340 Garland Road
South Bend, IN 46614

Dear Ms. Woodka:

It has been nearly one (1) year since you submitted the protocol, "Screening for Eating Disorders Utilizing MMPI-2" to the Institutional Review Board. This letter serves as a reminder that a one-year progress report is now due. Kindly complete the report using the enclosed form and submit it at your earliest convenience so that it is available for consideration at the next IRB meeting.

Thank you for your continued interest in conducting research at Memorial Hospital.

Sincerely,

A handwritten signature in cursive script that reads "Janet Howard". The signature is written in dark ink and is positioned above the printed name and title.

Janet Howard, R.N., M.S.N.
Chair, Institutional Review Board

JH/abh

cc: IRB file

APPENDIX B-4

Memorial
Hospital of South Bend
Quality of Life

June 15, 1998

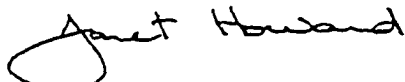
Roscann Woodka, M.S.
700 Blackbird Roost Street, Apt. 221
Flagstaff, AZ 86001-6251

Dear Ms Woodka:

It has been one (1) year since you submitted the protocol, "Screening for Eating Disorders Utilizing MMPI-2" to the Institutional Review Board. This letter serves as a reminder that a one-year progress report is now due. Kindly complete the report using the standard format and submit it at your earliest convenience so that it is available for consideration at the next IRB meeting.


Thank you for your continued interest in conducting research at Memorial Hospital.

Sincerely,



Janet Howard, R.N., M.S.N.
Chair, Institutional Review Board

JH/psa

615 North Michigan Street
South Bend, Indiana 46601-1087
Website - <http://qualityoflife.org>
 printed on recycled paper

Memorial

Hospital of South Bend

Quality of Life

September 2, 1998.

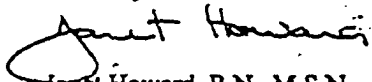
Roscann M. Woodka, MS
1340 Garland Road
South Bend, IN 46614

Dear Ms. Woodka:

At its meeting on September 2, 1998, the IRB reviewed the progress report for the protocol, "Screening for Eating Disorders Utilizing the MMPI-2". As Chair, it is my pleasure to inform you that the Board has granted approval for continuation of the protocol for a one (1) year period commencing September 2, 1998 and expiring September 1, 1999. Please be advised that at the end of the one year period, another progress report will be required.

Thank you for your continued cooperation in conducting research at Memorial Hospital of South Bend. If you are in need of further assistance, please feel free to contact me at 284-3221.

Sincerely,



Janet Howard, R.N., M.S.N.
Chair, Institutional Review Board

JH/abh

cc: IRB file

615 North Michigan Street
South Bend, Indiana 46601-1087
Website: <http://qualityoflife.org>
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Memorial
Hospital of South Bend
Quality of Life

November 23, 1998

Roscann M. Woodka, M.S.
1340 Garland Road
South Bend, IN 46614

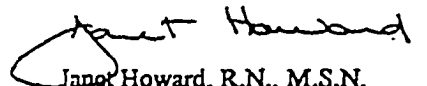
Dear Ms. Woodka:

This letter serves to acknowledge the receipt of the amendment to your protocol, "Screening for Eating Disorders Utilizing MMPI-2". I have determined that the materials qualify for expedited review and therefore will not require review by the full IRB.

As Chair of the IRB, it is my pleasure to inform you that the amendment and consent forms have been approved for immediate use. Please remember to report the results of the cross validation in your next progress report.


Again, thank you for your continued interest in conducting research at Memorial Hospital of South Bend. If you are in need of further assistance, please feel free to contact me at 284-3221.

Sincerely,


Janet Howard, R.N., M.S.N.
Chair, Institutional Review Board

JH/rhs

cc: Valerie Staples, Program Coordinator, HOPE
IRB Files

615 North Michigan Street
South Bend, Indiana 46601-1087
Website: <http://qualityoflife.org>
 printed on recycled paper

APPENDIX B-7

PSYCHOLOGICAL & FAMILY CONSULTANTS

926 East Jackson Blvd • Elkhart, IN 46516 • (219) 522-6292 • Fax: (219) 522-0481
Sheridan P. McCabe, Ph.D. B. Kay Bontrager, R.N., M.A., NCAC-I, CADAC
Melvin F. Funk, Ph.D. Roseann Woodka, M.S., C.F.T.
Jean A. McCutchan, Ph.D. Michael W. Oyer, M.A.

RESEARCH REQUEST TO USE DATA

TITLE: Screening for Eating Disorders Utilizing the MMPI-2.

PRINCIPLE INVESTIGATOR: Roseann M. Woodka, M.S., C.F.T.

RESEARCH CHAIRMAN: Jimmy Kijai, Ph.D.
Andrews University, Berrien Springs, MI.

DATA REQUESTED: MMPI answer sheets from files of female clients who have terminated counseling.

PURPOSE: Doctoral research

CONFIDENTIALITY: Only the MMPI answer sheets are needed for this research. Names and background of individuals are not pertinent except regarding age and sex. Files will be read in order to ensure that answer sheets be placed in the appropriate group (eating disorder/non-eating disorder). A coding system will be employed to respect anonymity and confidentiality. The researcher will abide by the APA Ethical Guidelines in all areas of this study.

Roseann M. Woodka
Name of researcher

Roseann M. Woodka
Signature of researcher

1340 Garland Road
Address

South Bend, Indiana 46614
City, State, Zip

[Signature]
Signature of Chairman

9/24/98
Date

[Signature]
Request granted

10/1/97
Date of acceptance

APPENDIX C

EXPERT JUDGES' RESPONSES

APPENDIX C

PHASE 2: EXPERT JUDGES' RESPONSES

Response	MMPI-2 Item #	New Item #	Judges			
			1	2	3	4
F	2.	1. I have a good appetite.	X	X	X	
F	3.	2. I wake up fresh and rested most mornings.	X	X	X	
F	8.	3. My hands and feet are usually warm enough.		X	X	X
F	9.	4. My daily life is full of things that keep me interested.	X	X	X	
F	20.	5. I am very seldom troubled by constipation.	X	X	X	
T	18.	6. I am troubled by attacks of nausea and vomiting.	X	X	X	X
T	22.	7. No one seems to understand me.	X	X	X	
T	28.	8. I am bothered by an upset stomach several times a week.	X	X	X	X
T	31.	9. I find it hard to keep my mind on a task or job.	X	X	X	X
T	39.	10. My sleep is fitful and disturbed	X	X	X	
T	46.	11. I prefer to pass by school friends, or people I know but have not seen for a long time unless they speak to me first.	X	X	X	
T	56.	12. I wish I could be as happy as others seem to be.	X	X	X	
T	59.	13. I am troubled by discomfort in the pit of my stomach every few days or oftener.	X	X		X
F	61.	14. I am an important person.	X	X	X	
T	65.	15. Most of the time I feel blue.	X	X	X	
F	63.	16. My feelings are not easily hurt.	X	X	X	
T	73.	17. I am certainly lacking in self-confidence.	X	X	X	X
F	75.	18. I usually feel life is worthwhile.	X	X	X	
F	79.	19. I do not mind being made fun of.	X		X	X
T	82.	20. I do many things which I regret afterwards (I regret things more often than others seem to).	X	X	X	X
T	89.	21. My hardest battles are with myself.	X	X	X	X
T	92.	22. I don't seem to care what happens to me.	X	X	X	
F	95.	23. I am happy most of the time.	X	X	X	
T	98.	24. Some people are so bossy that I feel like doing the opposite of what they request even though I know they are right.	X	X	X	
T	111.	25. I have a great deal of stomach trouble.	X	X	X	X
T	116.	26. Often I can't understand why I have been so irritable and grouchy.	X	X	X	
F	117.	27. I have never vomited blood or coughed up blood.	X	X	X	

APPENDIX C-Continued.

Response	MMPI-2 Item #	New Item #	Judges			
			1	2	3	4
T	124.	28. I commonly wonder what hidden reason another person may have for doing something nice for me.	X	X	X	
T	127.	29. Criticism or scolding hurts me terribly.	X	X	X	
T	150.	30. Sometimes I feel I must injure either myself or someone else.	X	X	X	X
T	130.	31. I certainly feel useless at times.	X	X	X	
T	135.	32. I have often lost out on things because I couldn't make mind up soon enough.	X	X	X	
T	139.	33. I would rather win than lose in a game.	X	X	X	
F	140.	34. Most nights I go to sleep without thoughts or ideas bothering me.	X	X	X	
F	143.	35. I am neither gaining nor losing weight.	X	X	X	X
F	144.	36. I have never felt better in my life than I do now.	X	X	X	
F	152.	37. I do not tire quickly.	X	X	X	
T	153.	38. I like to know some important people because it makes me feel important	X	X	X	
F	157.	39. What others think of me does not bother me.	X	X	X	
F	164.	40. I seldom or never have dizzy spells.	X	X	X	X
T	166.	41. I am worried about sex.	X	X	X	
T	175.	42. I feel weak all over much of the time.	X	X	X	
F	176.	43. I have very few headaches.	X	X	X	
T	252.	44. Everything tastes the same.	X	X	X	
T	264.	45. I have used alcohol excessively.	X	X	X	
T	196.	46. I frequently find myself worrying about something.	X	X	X	
T	205.	47. Some of my family have habits that bother and annoy me very much.	X	X	X	
F	206.	48. At times I feel that I can make up my mind with unusually great ease.	X	X	X	
T	211.	49. I have been inspired to a program of life based on duty which I have since carefully followed.	X	X	X	
F	214.	50. I have been quite independent and free from family rule.	X	X	X	X
T	215.	51. I brood a great deal.	X	X	X	
T	213.	52. I have difficulty in starting to do things.	X	X	X	
F	237.	53. It does not bother me that I am not better looking.	X	X	X	
F	239.	54. I am entirely self-confident.	X	X	X	X
F	244.	55. Something exciting will almost always pull me out of it when I am feeling low.	X	X	X	

APPENDIX C-Continued.

Response	MMPI-2 Item #	New Item #	Judges			
			1	2	3	4
T	251.	56. I have often felt that strangers were looking at me critically.	X	X	X	
T	265.	57. I am not likely to speak to people until they speak to me.	X	X	X	
T	273.	58. Life is a strain for me much of the time.	X	X	X	
T	274.	59. I am so touchy on some subjects that I can't talk about them.	X	X	X	
T	277.	60. Even when I am with people I feel lonely much of the time.	X	X	X	
T	285.	61. I am more sensitive than most people.	X	X	X	
T	299.	62. I cannot keep my mind on one thing.	X	X	X	X
T	302.	63. I easily become impatient with people.	X	X	X	
T	301.	64. I feel anxiety about something or someone most of the time.	X	X	X	
F	321.	65. I have no dread of going into a room by myself where other people have already gathered and are talking.	X	X	X	
T	326.	66. I have several times given up doing a thing because I thought too little of my ability.	X	X	X	
T	328.	67. Sometimes some unimportant thought will run through my mind and bother me for days.	X	X	X	X
F	335.	68. I am not unusually self-conscious.	X	X	X	X
F	388.	69. I very seldom have spells of the blues.	X	X	X	X
T	338.	68. People often disappoint me.	X	X	X	
T	391.	71. I feel unable to tell anyone all about myself.	X	X	X	
T	400.	72. Often, even though everything is going fine for me, I feel that I don't care about anything.	X	X	X	
T	411.	73. At times I think I am no good at all.	X	X	X	X
T	415.	74. I worry quite a bit over possible misfortunes.	X	X	X	
T	421.	75. I am apt to pass up something I want to do because others feel that I am not going about it in the right way.	X	X	X	
F	353.	76. I enjoy social gatherings just to be with people.	X	X	X	
T	430.	77. I am often sorry because I am so irritable and grouchy.	X	X	X	
F	364.	78. I feel like giving up quickly when things go wrong.	X	X	X	
F	437.	79. I am usually very direct with people I am trying to correct or improve.	X	X	X	

APPENDIX C-Continued.

Response	MMPI-2 Item #	New Item #	Judges			
			1	2	3	4
T	442.	80. I must admit that I have at times been worried beyond reason over something that really did not matter.	X	X	X	X
F	443.	81. I do not try to cover up my poor opinion or pity of a person so that he won't know how I feel.	X	X	X	
T	451.	82. I often feel guilty because I pretend to feel more sorry about something than I really do.	X	X	X	
F	452.	83. I strongly defend my own opinions as a rule.	X	X	X	
T	454.	84. The future seems hopeless to me	X	X	X	
T	463.	85. Several times a week I feel as if something dreadful is about to happen.	X	X	X	
T	464.	86. I feel tired a good deal of the time.	X	X	X	
T	369.	87. I am apt to pass up something I want to do when others feel that it isn't worth doing.	X	X	X	

APPENDIX D

TABLE OF FACTOR ANALYSIS

APPENDIX D

TABLE OF FACTOR ANALYSIS

MMPI Scale	MMPI Item #	1	2	3	4	5	6
Pt:Mf	217.	.676					
A	431.	.550					
	362.	.550					
Dep	418.	.542		.320			
Si:D	138.	.533					
Si:Mf	278.	.526					
A	499.	.512					
ANG	468.	.505					
D	86.	.501	.392				
D:Pd:Pt:Si	67.	.484					
Pa	317.	.481					
D:Pt	142.	.457	.358				
A	443.	.453		.310			
Si:Pt	359.	.450					
Si:Pt	357.	.450					
Dep	379.	-.444	-.362				
Si	371.	-.429					
Pt	337.	.426					
Mf	79.	-.425					
Mf	264.	-.410					
Si	487.	.406	.380				
Si:Mf	262.	-.406					
	408.	.403					
Mf	226.	.400					
	409.	.400					
Si	564.	.397					
Pa:Hy	170.	-.391					
Si	411.	.381		.316			
Pt:Pd	102.	.359					
	416.	.355					
A	518.	.355		.327			
Hy	129.	.345					
TPA	439.	.336					
ANX	290.						
Ma:D	13.						
Si:Pt	353.						

APPENDIX D: TABLE OF FACTOR ANALYSIS-*Continued.*

MMPI Scale	MMPI Item #	1	2	3	4	5	6
D:Pt	36.						
	150.						
	165.						
Mf	198.						
GM	563.						
	318.		-.651				
Si:Pt:Hy:D	8.		-.631				
Pa:Pd:Hy:D	107.		-.599				
D	88.		-.532	-.387			
Sc:Pt	76.		.518	.443			
Pt:Hy:Hs	3.		-.508		-.301		
Hy:D	160.		-.495				
	328.		.489				
A	544.		.468				
D:Hy:Pt:Sc	32.	.309	.465				
Pt	301.	.319	.461	.344			
Ma	73.		-.457				
	366.	.377	.437	.378			
D	46.		-.428				
Sc	335.		.426				
Sc:Pt:Pa	305.		.417	.394			
Hy	163.		-.384				
Sc	259.		.373				
Hy:D:Hs	51.		-.368		-.320		
Si:D	9.		-.362		-.361		
D	236.	.312	.333				
Ma	272.		-.332				
Ma:Pa	228.		-.323				
Hy:Hs:D	43.		.309				
Ma	232.		-.306				
Ma:Pa	268						
Sc:Pa:Pd	24.			.536			
Pa	333.			.534			
Pa	106.			.460			
	448.			.451			
Dep	526.		.368	.437			
Si:Hy	292.			.430			

APPENDIX D: TABLE OF FACTOR ANALYSIS-*Continued.*

MMPI Scale	MMPI Item #	1	2	3	4	5	6
Si	383.	.348		.421			
Hy	136.	.357		.420			
	139.			.408			
Sc:D	104.		.378	.400			
Dep:A	396.		.366	.388			
A	384.			.378			
Sc	306.			-.368			
Sc	210.			.359			
Pt:Pd:Dep	94.	.350		.358			
Si:Hy	147.			.354			
Sc	303.			.351			
A	543.			.350			
Mf	260.			.346			
Si	449.		-.303	-.338		.346	
Sc	40.			.335			
Sc:D	52.			.334			
Hy	26.			.309			
	541.			.305	.303		
Sc:Mf	179.						
	399.						
	423.						
	424.						
Pa	313.						
Hy:D	23.				.643		
	288.				.633		
Hy	175.				-.585		
Hs	29.				.579		
Hs	125.				.559		
Hs	72.				.521		
	63.				-.484		
Pt:Hy	10.				.421		
Pt:Hy:D:Hs	189.		.331		.403		
Hy:Hs	190.				-.381		
	14.				.380		
D:Hs	153.				-.369		
	533.				-.345		

APPENDIX D: TABLE OF FACTOR ANALYSIS-Continued.

MMPI Scale	MMPI Item #	1	2	3	4	5	6
Hy:D:Hs	2.				-.342		
Hs	18.				-.337		
	412.				-.311		
D:Hs	130.				-.304		
D:Pt	152.						
	34.						
Hs:Hy	7.						
A	31.						
Hs:D:Pd	155.						
Mf	74.						
Pd	215.					.576	
	460.					-.516	
Pd:Pa	294.					-.472	
Sc	330.					-.353	
Pd:Sc	37.					-.338	
	223.					.336	
	378.						
Pd:Si	91.						
	68.						
	392.						
	520.						
	135.						.521
	438.						.458
Pt	336.	.351					.418
	498.						.411
	495.						.359
Hy:Pa:Ma	109.						.344
Mf	132.	.310					.337
	504.						
Pd	235.						
Pd	118.						

Note: Scale names - Hypochondriasis (Hs); Depression (D); Hysteria (Hy); Psychopathic Deviate (Pd); Masculinity-Femininity (Mf); Paranoia (Pa); Psychasthenia (Ps); Schizophrenia (Sc); Hypomania (Ma); Social Introversion (Si); Depression (Dep); Anxiety (A) and (ANX); Anger (ANG) Type A Personality (TPA) .

APPENDIX E

RESEARCH CONSENT FORMS

APPENDIX E-1

Andrews University

School of Education

Department of Educational and Counseling Psychology

INFORMED CONSENT

Eating Disorders: Screening for Eating Disorders Utilizing the Minnesota Multiphasic Personality Inventory

I understand that the primary reason for conducting this research is to develop a subscale from the existing items on the Minnesota Multiphasic Personality Inventory (MMPI) which would screen for eating disordered thoughts, feelings, and behaviors.

I understand that I will complete two questionnaires as part of the study: the proposed eating disorders subscale and the Eating Disorders Inventory - 2 (EDI-2).

I understand that my identity (except for age and research group) will be kept anonymous.

I understand that all of my responses will be kept anonymous and will be used solely for research purposes.

I understand that I will have no direct contact with the researcher unless I am a client at Psychological and Family Consultants or St. Anthony Hospital.

I understand that the researcher will send test results to my therapist to be used therapeutically.

I understand that I may benefit from awareness of the results and may seek assistance from my primary therapist should the testing cause distress.

I understand that my time commitment in terms of completing the questionnaires should be less than one hour.

I understand that if I wish to contact an impartial third party not associated with this study regarding any complaint that I may have about the study, I may contact Dr. Elsie Jackson, Andrews University, Educational and Counseling Psychology Department, Berrien Springs, MI 49104. Telephone number: 616-471-3308 for information and assistance.

I understand that I may also contact the researcher, Roseann Woodka, at 219-522-6292 or her advisor, Jimmy Kijai, at Andrews University, Educational and Counseling Psychology Department, Berrien Springs, MI 49104. Telephone number: 616-471-6340 for information and assistance.

I understand that I may withdraw from the study at any time if I feel distressed.

I have read the contents of this consent form and have had my questions answered to my satisfaction.

Participant

Date

Witness

Date

APPENDIX E-2

Andrews University

School of Education

Department of Educational and Counseling Psychology

INFORMED CONSENT FOR H.O.P.E.

Eating Disorders: Screening for Eating Disorders
Utilizing the Minnesota Multiphasic Personality Inventory

I understand that the primary reason for conducting this research is to develop a subscale from the existing items on the Minnesota Multiphasic Personality Inventory (MMPI) which would screen for eating disordered thoughts, feelings, and behaviors.

I understand that I will complete two questionnaires as part of the study: the proposed eating disorders subscale and the Eating Disorders Inventory - 2 (EDI-2).

I understand that my identity (except for age and research group) will be kept anonymous.

I understand that all of my responses will be kept anonymous and will be used solely for research purposes.

I understand that I will have no direct contact with the researcher unless I am a client at Psychological and Family Consultants or St. Anthony Hospital.

I understand that the researcher will send test results to my therapist to be used therapeutically.

I understand that I may benefit from awareness of the results and may seek assistance from my primary therapist should the testing cause distress.

I understand that my time commitment in terms of completing the questionnaires should be less than one hour.

I understand that if I wish to contact an impartial third party not associated with this study regarding any complaint that I may have about the study, I may contact Dr. Elsie Jackson, Andrews University, Educational and Counseling Psychology Department, Berrien Springs, MI 49104. Telephone number: 616-471-3308 for information and assistance.

I understand that I may also contact the researcher, Roseann Woodka, at 219-522-6292 or her advisor, Jimmy Kijai, at Andrews University, Educational and Counseling Psychology Department, Berrien Springs, MI 49104. Telephone number: 616-471-6340 for information and assistance.

I understand that I may contact Jan Howard, Chairperson, Institutional Review Board at Memorial Hospital, South Bend Indiana for further information and assistance. Telephone number: 219-284-3221.

I understand that I may withdraw from the study at any time if I feel distressed.

I have read the contents of this consent form and have had my questions answered to my satisfaction.

Participant

Date

Witness

Date

APPENDIX E-3

Andrews University

School of Education

Department of Educational and Counseling Psychology

Therapist Informed Consent

Eating Disorders: Screening for Eating Disorders
Utilizing the Minnesota Multiphasic Personality Inventory

I understand that the primary reason for conducting this research is to develop a subscale from the existing items on the Minnesota Multiphasic Personality Inventory (MMPI) which would screen for eating disordered thoughts, feelings, and behaviors.

I understand that each prospective participant will be asked to complete two questionnaires: the proposed eating disorders subscale and the Eating Disorders Inventory-2 (EDI-2). This will require approximately one hour of time.

I understand that the participants be female.

I understand that the female clients I ask to participate have a diagnosis of Anorexia Nervosa or Bulimia Nervosa according to the DSM-IV criteria. Individuals who are primarily binge eaters without compensatory behaviors are not being solicited for this study.

I understand that if I have a question about a potential participant's diagnosis I may contact the researcher, Roseann Woodka, at 219-522-6292.

I am willing to take part in the development of this research by asking individuals with the diagnosis of Anorexia Nervosa or Bulimia Nervosa if they would be willing to participate .

I understand that my client's anonymity and confidentiality will be maintained according to the APA Code of Ethics for research.

I understand that I will receive feedback from the researcher regarding the results of this study.

I concur with the parameters defined for this study. I have read the contents of this consent form and have listened to the verbal explanation given by the researcher. I agree that I will not disclose the content of the test results to anyone except my client. My questions concerning this study have been answered to my satisfaction. I hereby give voluntary consent to participate in this study. I have also been given a copy of this consent form.

Therapist's signature

Date

Witness

Date

APPENDIX E-4

Andrews University

School of Education
Department of Educational and Counseling Psychology

Therapist Informed Consent Non-Eating Disordered Control Group

Eating Disorders: Screening for Eating Disorders Utilizing the Minnesota Multiphasic Personality Inventory

I understand that the primary reason for conducting this research is to develop a subscale from the existing items on the Minnesota Multiphasic Personality Inventory (MMPI) which would screen for eating disordered thoughts, feelings, and behaviors.

I understand that each prospective participant will be asked to complete two questionnaires: the proposed eating disorders subscale and the Eating Disorders Inventory-2 (EDI-2). This will require approximately one hour of time.

I understand that the participants be female.

I understand that the female clients I ask to participate have a diagnosis other than Anorexia Nervosa or Bulimia Nervosa according to the DSM-IV criteria in order to serve as the control group. Also, individuals who are primarily binge eaters without compensatory behaviors are not being solicited for this study.

I understand that if I have a question about a potential participant's diagnosis I may contact the researcher, Roseann Woodka, at 219-522-6292.

I am willing to take part in the development of this research by asking individuals without the diagnosis of Anorexia Nervosa or Bulimia Nervosa if they would be willing to participate.

I understand that my client's anonymity and confidentiality will be maintained according to the APA Code of Ethics for research.

I understand that I will receive feedback from the researcher regarding the results of this study.

I concur with the parameters defined for this study. I have read the contents of this consent form and have listened to the verbal explanation given by the researcher. I agree that I will not disclose the content of the test results to anyone except my client. My questions concerning this study have been answered to my satisfaction. I hereby give voluntary consent to participate in this study. I have also been given a copy of this consent form.

Therapist's signature

Date

Witness

Date

APPENDIX F

EXPLANATION OF CROSS-VALIDATION

APPENDIX F

CROSS-VALIDATION

Eating Disorders: Screening for Eating Disorders
Utilizing the Minnesota Multiphasic Personality Inventory

PURPOSE OF THE STUDY

The purpose of this study is to identify items on the Minnesota Multiphasic Personality Inventory (MMPI) which differentiate between eating disordered and non-eating disordered females. After the identification of these items, the goal is to develop an eating disorders subscale for the MMPI-2 which will screen for anorexia nervosa and bulimia nervosa.

CROSS-VALIDATION RESEARCH SAMPLE

For the purpose of cross-validation, female subjects will be placed into one of two groups: eating disordered or non-eating disordered according to prior diagnosis by a mental health clinician or treatment center staff. The cross-validation sample size will be not less than 30 females in each group.

INSTRUMENTATION

Two instruments will be used for cross-validation purposes: the proposed eating disorder subscale and the Eating Disorders Inventory - 2 (EDI-2). Both instruments will be provided by the researcher.

RESEARCH PROCEDURES

Cross-validation will be accomplished by administering those items which comprise the proposed eating disordered subscale and the EDI-2 to a new research sample. The sample will consist of an eating disordered group and a non-eating disordered group. Only females will be used and subject age will be the only demographic available. The two groups' responses will be compared by empirical keying to determine if these items do indeed differentiate eating disordered from non-eating disordered females. Additional cross-validation will take place by comparing the EDI-2 scores and the scores on the proposed subscale for both groups. The data collection for the cross-validation will conclude no later than January 31, 1999.

LOCATION OF THE STUDY

Each participant will complete the research instruments at her own therapist's office or treatment center.

CONFIDENTIALITY AND INFORMED RISK

A number will be assigned to each participant for identification. The response sheets will be coded with that number so that no names will be used. This will afford each participant her anonymity and confidentiality.

All response sheets and coded information will remain in a locked file drawer to which the researcher will have sole access. When the data analysis is completed and the referring therapist has received feedback, the data will be transferred to the office of the dissertation chairperson, Dr. Jimmy Kijai, and will be kept in a locked file drawer.

Each subject will be advised that her participation is completely voluntary and that she may refuse to continue at any time without experiencing negative consequences from the researcher or her therapist.

APPENDIX G

PHASE 3: 87-ITEM QUESTIONNAIRE

APPENDIX G

PHASE 3: 87-ITEM QUESTIONNAIRE

NAME: _____

This questionnaire consists of numbered statements. Read each statement and decide whether it is *true (or mostly true) as applied to you* or *false (or mostly false) as applied to you*. Mark your answers on the line preceding each numbered item. Remember to give your own opinion of yourself.

- ___1. I have a good appetite.
- ___2. I wake up fresh and rested most mornings.
- ___3. My hands and feet are usually warm enough.
- ___4. My daily life is full of things that keep me interested.
- ___5. I am very seldom troubled by constipation.
- ___6. I am troubled by attacks of nausea and vomiting.
- ___7. No one seems to understand me.
- ___8. I am bothered by acid stomach several times a week.
- ___9. I find it hard to keep my mind on a task or job.
- ___10. My sleep is fitful and disturbed.
- *****
- ___11. I prefer to pass by school friends, or people I know but have not seen for a long time, unless they speak to me first.
- ___12. I wish I could be as happy as others seem to be.
- ___13. I am troubled by discomfort in the pit of my stomach every few days or oftener.
- ___14. I am an important person.
- ___15. Most of the time I feel blue.
- ___16. My feelings are not easily hurt.
- ___17. I am certainly lacking in self-confidence.
- ___18. I usually feel that life is worth while.
- ___19. I do not mind being made fun of.
- ___20. I do many things which I regret afterwards (I regret things more or more often than others seem to).
- *****
- ___21. My hardest battles are with myself.
- ___22. I don't seem to care what happens to me.
- ___23. I am happy most of the time.
- ___24. Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right.
- ___25. I have a great deal of stomach trouble.
- ___26. Often I can't understand why I have been so cross and grouchy.
- ___27. I have never vomited blood or coughed up blood.
- ___28. I commonly wonder what hidden reason another person may have for doing something nice for me.

APPENDIX G, *continued*

___29. Criticism or scolding hurts me terribly.

___30. Sometimes I feel as if I must injure either myself or someone else.

___31. I certainly feel useless at times.

___32. I have often lost out on things because I couldn't make up my mind soon enough.

___33. I would rather win than lost in a game.

___34. Most nights I go to sleep without thoughts or ideas bothering me.

___35. I am neither gaining nor losing weight.

___36. I have never felt better in my life than I do now.

___37. I do not tire quickly.

___38. I like to know some important people because it makes me feel important.

___39. What others think of me does not bother me.

___40. I seldom or never have dizzy spells.

___41. I am worried about sex matters.

___42. I feel weak all over much of the time.

___43. I have very few headaches.

___44. Everything tastes the same.

___45. I have used alcohol excessively.

___46. I frequently find myself worrying about something.

___47. Some of my family have habits that bother and annoy me very much.

___48. At times I feel that I can make up my mind with unusually great ease.

___49. I have been inspired to a program of life based on duty which I have since carefully followed.

___50. I have been quite independent and free from family rule.

___51. I brood a great deal.

___52. I have difficulty in starting to do things.

___53. It does not bother me that I am not better looking.

___54. I am entirely self-confident.

___55. Something exciting will almost always pull me out of it when I am feeling low.

___56. I have often felt that strangers were looking at me critically.

___57. I am likely not to speak to people until they speak to me.

___58. Life is a strain for me much of the time.

___59. I am so touchy on some subjects that I can't talk about them.

___60. Even when I am with people I feel lonely much of the time.

APPENDIX G, *continued*

- ___61. I am more sensitive than most other people.
- ___62. I cannot keep my mind on one thing.
- ___63. I easily become impatient with people.
- ___64. I feel anxiety about something or someone almost all the time.
- ___65. I have no dread of going into a room by myself where other people have already gathered and are talking.
- ___66. I have several times given up doing a thing because I thought too little of my ability.
- ___67. Sometimes some unimportant thought will run through my mind and bother me for days.
- ___68. I am more sensitive than most other people.
- ___69. Even when I am with people I feel lonely much of the time.
- ___70. I am not unusually self-conscious.

- ___71. I very seldom have the blues.
- ___72. People often disappoint me.
- ___73. I feel unable to tell anyone all about myself.
- ___74. Often, even though everything is going fine for me, I feel that I don't care about anything.
- ___75. At times I think I am no good at all.
- ___76. I worry quite a bit over possible misfortunes.
- ___77. I am apt to pass up something I want to do because others feel that I am not going about it in the right way.
- ___78. I enjoy social gatherings just to be with people.
- ___79. I have used alcohol moderately (or not at all).
- ___80. I am often sorry because I am so cross and grouchy.

- ___81. I feel like giving up quickly when things go wrong.
- ___82. I usually "lay my cards on the table" with people that I am trying to correct or improve.
- ___83. I must admit that I have at times been worried beyond reason over something that really did not matter.
- ___84. I do not try to cover up my poor opinion or pity of a person so that he won't know how I feel.
- ___85. I have often felt guilty because I have pretended to feel more sorry about something than I really was.
- ___86. I strongly defend my own opinions as a rule.
- ___87. The future seems hopeless to me.
- ___88. Several times a week I feel as if something dreadful is about to happen.
- ___89. I feel tired a good deal of the time.
- ___90. I am apt to pass up something I want to do when others feel that it isn't worth doing.

APPENDIX H

PROPOSED MMPI-2 EATING-DISORDER SUBSCALE

APPENDIX H

PROPOSED MMPI-2 EATING-DISORDER SUBSCALE

NAME: _____

This questionnaire consists of numbered statements. Read each statement and decide whether it is *true (or mostly true) as applied to you* or *false (or mostly false) as applied to you*. Mark your answers on the line preceding each numbered item. Remember to give your own opinion of yourself.

- ___ 1. I wake up fresh and rested most mornings.
- ___ 2. My hands and feet are usually warm enough.
- ___ 3. My daily life is full of things that keep me interested.
- ___ 4. I am very seldom troubled by constipation.
- ___ 5. I am troubled by attacks of nausea and vomiting.
- ___ 6. No one seems to understand me.
- ___ 7. I find it hard to keep my mind on a task or job.
- ___ 8. My sleep is fitful and disturbed.
- ___ 9. I prefer to pass by school friends, or people I know but have not seen for a long time, unless they speak to me first.
- ___ 10. I wish I could be as happy as others seem to be.
- ___ 11. I am troubled by discomfort in the pit of my stomach every few days or oftener.
- ___ 12. I am an important person.
- ___ 13. Most of the time I feel blue.
- ___ 14. My feelings are not easily hurt.
- ___ 15. I am certainly lacking in self-confidence.
- ___ 16. I usually feel that life is worthwhile.
- ___ 17. I do not mind being made fun of.
- ___ 18. I do many things which I regret afterwards (I regret things more often than others seem to).
- ___ 19. I don't seem to care what happens to me.

APPENDIX H, *continued*

- ___20. I am happy most of the time.
- ___21. Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right.
- ___22. I have a great deal of stomach trouble.
- ___23. Often I can't understand why I have been so irritable and grouchy.
- ___24. I commonly wonder what hidden reason another person may have for doing something nice for me.
- ___25. Criticism or scolding hurts me terribly.
- ___26. Sometimes I feel as if I must injure either myself or someone else.
- ___27. I certainly feel useless at times.
- ___28. I have often lost out on things because I couldn't make up my mind soon enough.
- ___29. Most nights I go to sleep without thoughts or ideas bothering me.
- ___30. I am neither gaining nor losing weight.
- ___31. I have never felt better in my life than I do now.
- ___32. I do not tire quickly.
- ___33. I seldom or never have dizzy spells.
- ___34. I am worried about sex.
- ___35. I feel weak all over much of the time.
- ___36. I frequently find myself worrying about something.
- ___37. Some of my family have habits that bother and annoy me very much.
- ___38. At times I feel that I can make up my mind with unusually great ease.
- ___39. I brood a great deal.
- ___40. It does not bother me that I am not better looking.
- ___41. Something exciting will almost always pull me out of it when I am feeling low.
- ___42. I have often felt that strangers were looking at me critically.
- ___43. I am likely not to speak to people until they speak to me.
- ___44. Life is a strain for me much of the time.
- ___45. I am so touchy on some subjects that I can't talk about them.
- ___46. Even when I am with people I feel lonely much of the time.
- ___47. I am more sensitive than most other people.

APPENDIX H, *continued*

- ___48. I cannot keep my mind on one thing.
- ___49. I easily become impatient with people.
- ___50. I feel anxiety about something or someone almost all the time.
- ___51. I have no dread of going into a room by myself where other people have already gathered and are talking.
- ___52. Sometimes some unimportant thought will run through my mind and bother me for days.
- ___53. I am not unusually self-conscious.
- ___54. I very seldom have spells of the blues.
- ___55. People often disappoint me.
- ___56. I feel unable to tell anyone all about myself.
- ___57. Often, even though everything is going fine for me, I feel that I don't care about anything.
- ___58. At times I think I am no good at all.
- ___59. I worry quite a bit over possible misfortunes.
- ___60. I am apt to pass up something I want to do because others feel that I am not going about it in the right way.
- ___61. I enjoy social gatherings just to be with people.
- ___62. I am often sorry because I am so irritable and grouchy.
- ___63. I feel like giving up quickly when things go wrong.
- ___64. I strongly defend my own opinions as a rule.
- ___65. The future seems hopeless to me.
- ___66. Several times a week I feel as if something dreadful is about to happen.
- ___67. I feel tired a good deal of the time.
- ___68. I am apt to pass up something I want to do when others feel that it isn't worth doing.

REFERENCE LIST

- Abraham, S., & Beumont, P. (1981). Varieties of psychosexual experience in patients with anorexia nervosa. International Journal of Eating Disorders, 1(3), 10-20.
- Abraham, S., & Beumont, P. (1982). How patients describe bulimia or binge eating. Psychological Medicine 12, 625-635.
- Abramson, E., & Valene, P. (1991). Media use, dietary restraint, bulimia, and attitudes towards obesity: A preliminary study. British Review of Bulimia and Anorexia Nervosa, 5(2), 73-76.
- Agras, W., & Kirkley, B. (1986). Bulimia: Theories of etiology. In K. Brownell & J. Foreyt (Eds.), Handbook of eating disorders (pp. 367-378). New York: Basic Books.
- American Psychiatric Association. (1980). Diagnostic and statistical manual of mental disorders (3rd ed.). (DSM-III). Washington, DC: Author.
- American Psychiatric Association. (1987). Diagnostic and statistical manual of mental disorders (3rd ed., revised). (DSM-III-R). Washington, DC: Author.
- American Psychiatric Association (1994). Diagnostic and statistical manual of mental disorders (4th ed.). (DSM-IV). Washington, DC: Author.
- Ames-Frankel, J., Devlin, M., Walsh, B., Strasser, T., Sadik, C., Oldham, J., & Roose, S. (1992). Personality disorder diagnoses in patients with bulimia nervosa: Clinical correlates and changes with treatment. Journal of Clinical Psychiatry, 53(1), 90-96.
- Anastasi, A. (1988). Psychological testing (6th ed.). New York: Macmillan Publishing Co.

- Andersen, A. E. (1986). Inpatient and outpatient treatment of anorexia nervosa. In K. Brownell & J. Foreyt (Eds.), Handbook of eating disorders: Physiology, psychology, and treatment of obesity, anorexia, and bulimia (pp. 333-350). New York: Basic Books.
- Andersen, A. E. (1992). Analysis of treatment experience and outcome from the Johns Hopkins eating disorders program: 1975-1990. In K. Halmi (Ed.), Psychobiology and treatment of anorexia nervosa and bulimia nervosa (pp. 93-124). Washington, DC: American Psychiatric Press.
- Andersen, A. E., Morse, C., & Santmyer, K. (1985). Inpatient treatment for anorexia nervosa. In D. Garner & P. Garfinkel (Eds.), Anorexia nervosa and bulimia (pp. 311-343). New York: Guilford Press.
- Apfeldorf, M., & Hunley, P. (1975). Application of MMPI alcoholism scales to older alcoholics and problems drinkers. Journal of Studies on Alcohol, 37, 645-653.
- Aronson, J. (Eds.). (1993). Insights in the dynamic, psychotherapy of anorexia and bulimia. Northvale, NJ: Jason Aronson.
- Baer-Barkley, K. (1998). Eating disorder patterns in the Minnesota Multiphasic Personality Inventory. Unpublished doctoral dissertation, Andrews University, Berrien Springs, MI.
- Bagby, R., Parker, J., & Taylor, G. (1991). Reassessing the validity and reliability of the MMPI Alexithymia Scale. Journal of Personality Assessment, 56(2), 238-253.
- Bagby, R., Taylor, G., & Atkinson, L. (1988). Alexithymia: A comparative study of three self-report measures. Journal of Psychosomatic Research, 32(1), 107-116.
- Barnett, L. (1986). Bulimarexia as symptom of sex-role strain in professional women. Psychotherapy, 23, 311-315.
- Barry, A., & Lippmann, B. (1990). Anorexia in males. Postgraduate Medicine, 87, 161-165.
- Bastiani, A.M., Rao, R., Weltzin, T., & W. Kaye. (1995). Perfectionism in anorexia. International Journal of Eating Disorders, 17(2), 147-152.
- Beary, M., Lacey, J., & Merry, J. (1986). Alcoholism and eating disorders in women of fertile age. British Journal of Addiction, 81, 685-689.

- Beck, D., Casper, R.C., & Andersen, A. (1996). Truly late onset of eating disorders: A study of 11 cases averaging 60 years of age at presentation. International Journal of E.D., 20(4), 389-395.
- Bell, R. (1985). Holy anorexia. Chicago: University of Chicago Press.
- Bemporad, J., Ratey, J., O'Driscoll, G., & Daehler, M. (1988). Hysteria, anorexia and the culture of self-denial. Psychiatry, 51(1), 96-103.
- Bendfeldt-Zachrisson, F. (1992). The causality of bulimia nervosa: An overview and social critique. International Journal of Mental Health, 21(1), 57-82.
- Bennett, W., & Gurin, J. (1982). The dieter's dilemma: Eating less and weighing more. New York: Basic Books.
- Ben-Porath, Y., & Butcher, J. (1989). The comparability of MMPI and MMPI-2 scales and profiles. Psychological Assessment: A Journal of Consulting and Clinical Psychology, 1, 345-347.
- Ben-Tovim, D., Marilov, V., & Crisp, A. (1979). Personality and mental state within anorexia nervosa. Journal of Psychosomatic Research, 23, 321.
- Beumont, P. (1977). Further categorization of patients with anorexia nervosa. Australian-New Zealand Journal of Psychiatry, 11, 223.
- Beumont, P. (1995). The clinical presentation of anorexia and bulimia nervosa. In K. Brownell & C. Fairburn (Eds.), Eating disorders and obesity: A comprehensive handbook (pp. 151-158). New York: Guilford Press.
- Beumont, P., Abraham, S., Argall, W., & Simpson, K. (1981). The sexual behavior and attitudes of girls and women with anorexia nervosa. Psychological Medicine, 2(1), 131-140.
- Beumont, P., George, C., & Smart, D. (1976). 'Dieters' and 'vomitters and purgers' in anorexia nervosa. Psychological Medicine, 6, 617.
- Biederman, J., Habelow, W., Rivinus, T., Harmatz, J., & Wise, G. (1986). MMPI profiles in anorexia nervosa patients with and without major depression. Psychiatric Research, 19, pp. 147-154.
- Binswanger, L. (1958). The case of Ellen West. In R. May (Ed.), Existence (pp. 237-365). New York: Basic Books.

- Bliss, E., & Branch, C. (1960). Anorexia nervosa: Its history, psychology and biology. New York: Hoeber.
- Bordo, S. (1990). Reading the slender body. In M. Jacobus, E. Fox Keller, & S. Shuttlewood (Eds.), Body/Politics: Women and the discourses of science (pp. 83-112). New York: Routledge.
- Boskind-Lodahl, M. (1976). Cinderella's stepsisters: A feminist perspective on anorexia nervosa and bulimia. Signs: Journal of Women in Culture and Society, 2, 342-356.
- Boskind-White, M., & White, W. (1983). Bulimarexia: The binge/purge cycle. New York: W. W. Norton & Company.
- Boskind-White, M., & White, W. (1986). Bulimarexia: A historical-sociocultural perspective. In K. Brownell & J. Foreyt (Eds.), Handbook of eating disorders: Physiology, psychology, and treatment of obesity, anorexia, and bulimia (pp. 353-366). New York: Basic Books.
- Bourke, M., Taylor, G., Parker, J., & Bagby, J. (1992). Alexithymia in women with anorexia nervosa: A preliminary investigation. British Journal of Psychiatry, 161, 240-243.
- Braddon, F., Rodgers, B., Wadsworth, M., & Davies, J. (1986). Onset of obesity in a 36 year birth cohort study. British Medical Journal, 293, 299-303.
- Braun, D., Sunday, S., & Halmi, K. (1994). Psychiatric comorbidity in patients with eating disorders. Psychological Medicine, 24(4), 859-867.
- Breaux, C., & Moreno, J. (1994). Comparing anorectics and bulimics on measures of depression, anxiety, and anger. Eating Disorders: Journal of Treatment and Prevention, 2(2), 158-167.
- Brewerton, T., Lydiard, R., Ballenger, J., & Herzog, D. (1993). Eating disorders and social phobia. Archives of General Psychiatry, 50(1), 70.
- Briere, J., & Runtz, M. (1988). Symptomatology associated with childhood sexual victimization in a nonclinical adult sample. Child Abuse and Neglect, 12(1), 51-59.
- Briggs, S., & Cheek, J. (1986). The role of factor analysis in the development of personality scales. Journal of Personality Assessment, 54, 106-148.

- Brisman, J., & Siegel, M. (1984). Bulimia and alcoholism: Two sides of the same coin? Journal of Substance Abuse and Treatment, 1, 113-118.
- Brown, J., Cross, H., & Nelson, J. (1990). Sex role identity and sex-role ideology in college women with bulimic behavior. International Journal of Eating Disorders, 9, 571-575.
- Brownell, K., & Fairburn, C. (Eds.). (1995). Eating disorders and obesity: A comprehensive handbook. New York: Guilford Press.
- Brownell, K., & Foreyt, J. (Eds.). (1986). Handbook of eating disorders: Physiology, psychology, and treatment of obesity, anorexia, and bulimia. New York: Basic Books.
- Bruch, H. (1962). Perceptual and conceptual disturbances in anorexia nervosa. Psychosomatic Medicine, 24, 187-194.
- Bruch, H. (1973). Eating disorders: Obesity, anorexia nervosa and the person within. New York: Basic Books.
- Bruch, H. (1978). The golden cage: The enigma of anorexia nervosa. New York: Vintage Books.
- Bruch, H. (1982). Anorexia nervosa: Therapy and theory. American Journal of Psychiatry, 139, 1531-1538.
- Bruch, H. (1985). Four decades of eating disorders. In D. Garner & P. Garfinkel (Eds.), Handbook of psychotherapy for anorexia nervosa and bulimia (pp. 7-18). New York: Guilford Press.
- Brumberg, J. (1988). Fasting girls: The emergence of anorexia nervosa as a modern disease. Cambridge, MA: Harvard University Press.
- Brunner, R., Maloney, M., Daniels, S., Mays, W., & Farrell, M. (1989). A controlled study of type A behavior and psychophysiologic responses to stress in anorexia nervosa. Psychiatry Research, 30(2), 223-230.
- Bryant-Waugh, R., & Kaminski, A. (1993). An overview. In B. Lask & R. Bryant-Waugh (Eds.), Childhood onset anorexia nervosa and related eating disorders (pp. 17-29). Hove, Sussex: Lawrence Erlbaum Associates.
- Bryant-Waugh, R., & Lask, B. (1993). Annotation: Eating disorders in children. Journal of Child Psychology and Psychiatry, 36(2), 191-202.

- Buchan, T., & Gregory, L. (1984). Anorexia nervosa in a Black Zimbabwean. British Journal of Psychiatry, 145, 326-330.
- Buchanan, R. (1994). The development of The Minnesota Multiphasic Personality Inventory. Journal of the History of Behavioral Sciences, 30, 148-161.
- Bulik, C. M. (1987a). Alcohol use and depression in women with bulimia. American Journal of Drug and Alcohol Abuse, 13, 343-355.
- Bulik, C. M. (1987b). Drug and alcohol abuse by bulimic women and their families. American Journal of Psychiatry, 144, 1604-1606.
- Bulik, C. M. (1991). Drug use and disordered eating: A behavioral pharmacology perspective. Eating Disorders Review, 2(3), 3-4.
- Bulik, C. M., Beidel, D.C., Duchmann, E., Weltzin, T. E., & Kaye, W.H. (1991). An analysis of social anxiety in anorexic, bulimic, social phobic, and control women. Journal of Psychopathology and Behavioral Assessment, 13(3), 199-211.
- Bulik, C. M., Beidel, D.C., Dutchman, E., Weltzin, T.E., & Kaye, W.H. (1992). Comparative psychopathology of women with bulimia nervosa and obsessive-compulsive disorder. Comprehensive Psychiatry, 33(4), 262-268.
- Bulik, C. M., Sullivan, P., Epstein, L., McKee, M., Kaye, W., Dahl, R., & Weltzin, T. (1992). Drug use in women with anorexia and bulimia nervosa. International Journal of Eating Disorders, 11(3), 213-225.
- Bulik, C. M., Sullivan, P., Weltzin, T. E., & Kaye, W. H. (1995). Temperament in eating disorders. International Journal of Eating Disorders, 17(3), 251-261.
- Bunnell, D., Shenker, I., Nussbaum, M., Jacobson, M., & Cooper, P. (1990). Subclinical versus formal eating disorders: Differentiating psychological features. International Journal of Eating Disorders, 9(3), 357-362.
- Buree, B., Papageorgis, D., & Hare, R. (1990). Eating in anorexia nervosa and bulimia nervosa: An application of the tripartite model of anxiety. Canadian Journal of Behavioral Science, 22(2), 207-218.
- Bushnell, J., Wells, J., Hornblow, A., Oakly-Browne, M., & Joyce, P. (1990). Prevalence of three bulimia syndromes in the general population. Psychological Medicine, 20(3), 671-680.

- Butcher, J. (1990). The MMPI-2 in psychological treatment. New York: Oxford University Press.
- Butcher, J., Dahlstrom, W., Graham, J., Tellegen, A., & Kaemmer, B. (1989). Minnesota Multiphasic Personality Inventory-2 (MMPI-2): Manual for administration and scoring. Minneapolis, MN: University of Minnesota Press.
- Butcher, J., Graham, J., Williams, C., & Ben-Porath, Y. (1990). Development and use of the MMPI-2 content scales. Minneapolis, MN: University of Minnesota Press.
- Butcher, J., & Pope, K. (1992). The research base, psychometric properties, and clinical uses of the MMPI-2 and MMPI-A. Canadian Psychology 33(1), 61-78.
- Butcher, J., & Tellegen, A. (1966). Objections to MMPI items. Journal of Consulting and Clinical Psychology, 30(6), 527-534.
- Butcher, J., & Williams, C. (1992). Essentials of MMPI-2 and MMPI-A interpretation. Minneapolis, MN: University of Minnesota Press.
- Button, E., & Whitehouse, A. (1981). Subclinical anorexia nervosa. Psychological Medicine, 11, 509-516.
- Buvat-Herbaut, M., Hebbinckuys, P., Lemaire, A., & Buvat, J. (1983). Attitudes toward weight, body image, eating, menstruation, pregnancy, and sexuality in 81 cases of anorexia compared with 288 normal control school girls. International Journal of Eating Disorders, 2(1), 45-59.
- Bynum, C. (1986). Holy feast and holy fast: The religious significance of food to medieval women. Berkeley, CA: University of California Press.
- Caine, T. M., Foulds, G. A., & Hope, K. (1967). The manual of the Hostility and Direction of Hostility Questionnaire. London: University of London Press.
- Calam, R., Waller, G., Slade, P., & Newton, T. (1990). Eating disorders and perceived relationships with parents. International Journal of Eating Disorders, 9(5), 479-485.
- Calden, G., Lundy, R., & Schlater, R. (1959). Sex differences in body concepts. Journal of Consulting Psychology, 23, 378.

- Caldwell, A. (1988). MMPI supplemental scale manual. Los Angeles: Caldwell Report.
- Cantwell, S., Sturzenberger, S., Burroughs, J., Salkin, B., & Green, J. (1977). Anorexia nervosa: Affective disorder? Archives of General Psychiatry, 34, 1087-1093.
- Casper, R. C. (1983). On the emergence of bulimia nervosa as a syndrome: A historical view. International Journal of Eating Disorders, 2(3), 3-16.
- Casper, R. C., Eckert, E., Halmi, K. A., Goldberg, S., & Davis, J. (1980). Bulimia: Its incidence and clinical importance in patients with anorexia nervosa. Archives of General Psychiatry, 37, 1030-1035.
- Casper, R. C., Halmi, K. A., Goldberg, S., Eckert, E., & Davis, J. (1979). Disturbances in body image estimation as related to other characteristics and outcome in anorexia nervosa. British Journal of Psychiatry, 134, 60-66.
- Casper, R. C., Hedeker, D., & McClough, J. F. (1992). Personality dimensions in eating disorders and their relevance for subtyping. Journal of the American Academy of Child and Adolescent Psychiatry, 31(5), 830-840.
- Casper, R. C., Offer, D., & Ostrov, E. (1981). The self-image of adolescents with acute anorexia nervosa. Journal of Pediatrics, 98, 656-661.
- Chandler, S., Abood, D., Lee, D., Cleveland, M., & Daly, J. (1994). Pathogenic eating attitudes and behaviors and body dissatisfaction differences among Black and White college students. Eating Disorders: The Journal of Treatment and Prevention, 2(4), 319-328.
- Channon, S., & DeSilva, W. P. (1985). Psychological correlates of weight gain in patients with anorexia nervosa. Journal of Psychiatric Research, 19, 267-271.
- Chernin, K. (1981). The obsession: Reflections on the tyranny of slenderness. New York: Harper & Row.
- Chewning-Korpach, M. (1993). Sexual revictimization: A cautionary note. Eating Disorders: The Journal of Treatment and Prevention, 1(3-4), 287-297.
- Chojnacki, J., & Walsh, W. (1992). The consistency of scores and configural patterns between the MMPI and MMPI-2. Journal of Personality Assessment, 59(2), 276-289.

- Clark, M., & Palmer, R. (1983). Eating attitudes and neurotic symptoms in university students. British Journal of Psychiatry, 142, 299-304.
- Coccaro, E., Siever, L., Klar, H., Maurer, G., Cochrane, K., Cooper, T., Mohs, R., & Davis, K. (1989). Serotonergic studies in patients with affective and personality disorders. Archives of General Psychiatry, 46(7), 587-599.
- Cochrane, C., Brewerton, T., Wilson, D., & Hodges, E. (1993). Alexithymia in the eating disorders. International Journal of Eating Disorders, 14, 219-222.
- Comrey, A. (1957a). A factor analysis of items on the MMPI depression scale. Educational and Psychological Measurement, 17(3), 578-585.
- Comrey, A. (1957b). A factor analysis of items on the MMPI hypochondriasis scale. Educational and Psychological Measurement, 17(3), 566-577.
- Comrey, A. (1957c). A factor analysis of items on the MMPI hysteria scale. Educational and Psychological Measurement, 17(3), 586-592.
- Comrey, A. (1958a). A factor analysis of items on the MMPI hypomania scale. Educational and Psychological Measurement, 18, 313-323.
- Comrey, A. (1958b). A factor analysis of items on the MMPI paranoia scale. Educational and Psychological Measurement, 18(1), 99-107.
- Comrey, A. (1958c). A factor analysis of items on the MMPI psychasthenia scale. Educational and Psychological Measurement, 18, 293-300.
- Comrey, A. (1958d). A factor analysis of items on the MMPI psychopathic deviate scale. Educational and Psychological Measurement, 18(1), 91-98.
- Comrey, A., & Marggraff, W. (1958). A factor analysis of items on the MMPI schizophrenia scale. Educational and Psychological Measurement, 18, 301-311.
- Connor-Greene, P., Striegel-Moore, R., & Cronan, S. (1994). Perceived social climate and weight preoccupation in college women. Eating Disorders: The Journal of Treatment and Prevention, 2(2), 126-134.
- Connors, M., Johnson, C., & Stuckey, M. (1984). Treatment of bulimia with brief psychoeducational group therapy. American Journal of Psychiatry, 141, 1512-1516.

- Connors, M., & Morse, W. (1993). Sexual abuse and eating disorders: A review. International Journal of Eating Disorders, 13(1), 1-11.
- Cooper, A., & Fairburn, C. (1987). The Eating Disorder Examination: A semi-structured interview for the assessment of the specific psychopathology of eating disorders. International Journal of Eating Disorders, 6(1), 1-7.
- Cooper, P. J., & Fairburn, C. (1983). Binge-eating and self-induced vomiting in the community: A preliminary study. British Journal of Psychiatry, 142, 139-144.
- Cooper, P. J., & Fairburn, C.G. (1993). Confusion over the core psychopathology of bulimia nervosa. International Journal of Eating Disorders, 13, 385-389.
- Cooper, Z. (1995). The development and maintenance of eating disorders. In K. Brownell & C. Fairburn (Eds.), Eating disorders and obesity: A comprehensive handbook (pp. 199-206). New York: Guilford Press.
- Corrigan, S., Johnson, W., Alford, G., Bergeron, K., & Lemmon, C. (1990). Prevalence of bulimia among patients in a chemical dependency treatment program. Addictive Behaviors, 15(6), 581-585.
- Cosford, P., & Arnold, E. (1992). Eating disorders in later life: A review. International Journal of Geriatric Psychiatry, 7, 491-498.
- Crisp, A. (1965). Clinical and therapeutic aspects of anorexia nervosa: A study of 30 cases. Journal of Psychosomatic Research, 9(1), 67-78.
- Crisp, A. (1967). The relationship of denial to the differential diagnosis of anorexia nervosa. In F. Antonelli & I. Ancona (Eds.), Proceedings of the 7th European Conference on Psychosomatic Research (pp. 432-436). Rome: Acta Medica Psychosomatica.
- Crisp, A. (1980). Anorexia nervosa: Let me be. London: Academic Press.
- Crisp, A. (1983). Some aspects of the psychopathology of anorexia nervosa. In P. Darby, P. Garfinkel, D. Garner, & D. Cossina (Eds.), Anorexia nervosa: Recent developments in research (pp. 15-28). New York: Alan R. Liss.
- Crisp, A., Hsu, L., Harding, B., & Hartshorn, J. (1980). Clinical features of anorexia nervosa. Journal of Psychosomatic Research, 24, 179-191.

- Crisp, A., Hsu, L., & Stonehill, E. (1979). Personality, body weight and ultimate outcome in anorexia nervosa. Journal of Clinical Psychiatry, 40(8), 332-335.
- Crisp, A., Palmer, R., & Kalucy, R. (1976). How common is anorexia nervosa? A prevalence study. British Journal of Psychiatry, 128, 549-554.
- Crowther, J., Lilly, R., Crawford, P., Shepherd, K., & Oliver, L. (1990). The stability of the Eating Disorder Inventory. Paper presented at the Annual Meeting of the American Psychological Association, Boston, MA.
- Crowther, J., Tennenbaum, D., Hobfoll, S., & Stephens, M. (Eds.). (1992). The etiology of bulimia nervosa: The individual and family context. Philadelphia: Hemisphere Publishing Corporation.
- Crowther, J., Wolf, E., & Sherwood, N. (1992). Epidemiology of bulimia nervosa. In J. Crowther, D. Tennenbaum, S. Hobfoll, & M. Stephens (Eds.), The etiology of bulimia nervosa: The individual and familial context (pp. 1-26). Philadelphia: Hemisphere Publishing Corp.
- Dahlstrom, W. (Ed.). (1956). Basic readings on the MMPI in psychology and medicine. Minneapolis, MN: University of Minnesota Press.
- Dahlstrom, W., & Dahlstrom, L. (Eds.). (1980). Basic readings on the MMPI: A selection on personality measurement. Minneapolis, MN: University of Minnesota Press.
- Dahlstrom W., Welsh, G., & Dahlstrom, L. (1972). An MMPI handbook: Vol. I. Clinical interpretation. Minneapolis, MN: University of Minnesota Press.
- Dahlstrom, W., Welsh, G., & Dahlstrom, L. (1975). An MMPI handbook: Vol. II. Research applications. Minneapolis, MN: University of Minnesota Press.
- Dally, P. (1969). Anorexia nervosa. London: Heinemann Press.
- Dally, P., & Gomez, J. (1979). Anorexia nervosa. London: Heinemann Press.
- Darby, P., Garfinkel P., Garner, D., & Coscina, D. (Eds.). (1983). Anorexia nervosa: Recent developments in research. New York: Alan R. Liss.

- Davis, C., & Yager, J. (1992). Transcultural aspects of eating disorders: A critical literature review. Culture, Medicine, and Psychiatry, 16, 377-394.
- Davis, R., Freeman, R., & Garner, D. (1988). A naturalistic investigation of eating behavior in bulimia nervosa. Journal of Consulting and Clinical Psychology, 56, 273-279.
- deZwann, M., Mitchell, J., Specker, S., Pyle, R., Mussell, M., & Seim, H. (1993). Diagnosing binge eating disorder: Level of agreement between self-report and expert-rating. International Journal of Eating Disorders, 14(2), 289-295.
- Dickstein, L. (1989). Current college environments: Do these communities facilitate and foster bulimia in vulnerable students. Journal of College Student Psychotherapy, 3(2-4), 107-133.
- DiNicola, V. (1990). Anorexia multiforme: Self-starvation in historical and cultural context, Part II. Anorexia nervosa as a culture-reactive syndrome. Transcultural Psychiatric Research Review, 27(4), 245-286.
- Dolan, B., Evans, C., & Lacey, J. (1989). Family composition and social class in bulimia: A catchment area of study of a clinical and comparison group. Journal of Nervous and Mental Diseases, 171(5), 267-272.
- Dornbusch, S., Carlsmith, J., Duncan, P., Gross, R., Martin, J., Ritter, P., & Siegel-Gorelick, B. (1984). Sexual maturation, social class, and the desire to be thin among adolescent females. Developmental and Behavioral Pediatrics, 5, 308-314.
- Duckworth, J., & Anderson, W. (1986). MMPI interpretation manual for counselors and clinicians. Muncie, IN: Accelerated Press.
- Dwyer, J. (1985). Nutritional aspects of anorexia nervosa and bulimia. In S. Emmett (Ed.), Theory and treatment of anorexia nervosa and bulimia: Biomedical, sociocultural, and psychological perspectives (pp. 20-50). New York: Brunner/Mazel, Publishers.
- Earleywine, M., Finn, P., & Peterson, J. (1992). Factor structure and correlates of the Tridimensional Personality Questionnaire. Journal of Studies on Alcohol, 53(3), 233-238.
- Eckert, E., Goldberg, S., Halmi, K., Casper, R., & Davis, J. (1979). Alcoholism in anorexia nervosa. In R. Pickens & L. Heston (Eds.), Psychiatric factors in drug abuse (pp. 267-283). New York: Grune & Stratton.

- Edwards, F. A., & Nagelberg, D.B. (1986). Personality characteristics of restrained/binge eaters versus unrestrained/nonbinge eaters. Addictive Behaviors, 11, 207-211.
- Eldredge, K., Wilson, G., & Whaley, A. (1990). Failure, self-evaluation and feeling fat in women. International Journal of Eating Disorders, 9(1), 37-50.
- Emmett, S. (1985). Theory and treatment of anorexia nervosa and bulimia: Biomedical, sociocultural, and psychological perspectives. New York: Brunner/Mazel, Publishers.
- Engel, K., & Meier, I. (1988). Clinical process studies on anxiety and aggressiveness affects in the inpatient therapy of anorexia nervosa. Psychotherapy and Psychosomatics, 50, 125-133.
- Esparon, J., & Yellowlees, A. (1992). Perceived parental rearing practices and eating disorders. British Review of Bulimia and Anorexia Nervosa, 6(1), 39-45.
- Evans, C., & Street, E. (1995). Possible differences in family patterns in anorexia nervosa and bulimia nervosa. Journal of Family Therapy, 17, 115-131.
- Fahey, T. (1990). Obsessive compulsive symptoms in eating disorders. Behavioral Research Therapy, 29(1), 113-116.
- Fahey, T., & Eisler, I. (1993). Impulsivity and eating disorders. British Journal of Psychiatry, 162, 193-197.
- Fairburn, C. (1984). The clinical features of bulimia nervosa. British Journal of Psychiatry, 144, 238-246.
- Fairburn, C. (1988). Diagnostic criteria for anorexia nervosa and bulimia nervosa: The importance of attitudes to shape and weight. In D. Garner & P. Garfinkel (Eds.), Diagnostic issues in anorexia nervosa and bulimia nervosa (pp. 36-55). New York: Brunner/Mazel.
- Fairburn, C. (1995). Physiology of anorexia nervosa. In K. Brownell & C. Fairburn (Eds.), Eating disorders and obesity: A comprehensive handbook (pp. 251-254). New York: Guilford Press.
- Fairburn, C., & Beglin, S. (1990). Studies of the epidemiology of bulimia nervosa. American Journal of Psychiatry, 147(4), 401-408.

- Fairburn, C., & Beglin, S. (1994). Assessment of eating disorders: Interview or self-report questionnaire? International Journal of Eating Disorders, 16(4), 363-370.
- Fairburn, C., & Cooper, P. (1984). The clinical features of bulimia nervosa. British Journal of Psychiatry, 144, 238-246.
- Fairburn, C., Cooper, Z., & Cooper, P. (1986). The clinical features and maintenance of bulimia nervosa. In K. Brownell & J. Foreyt (Eds.), Handbook of eating disorders: Physiology, psychology, and treatment of obesity, anorexia, and bulimia (pp. 389-404). New York: Basic Books.
- Fairburn, C., & Garner, D. (1986). The diagnosis of bulimia nervosa. International Journal of Eating Disorders, 5, 403-419.
- Fairburn, C., & Wilson, T. (Eds.). (1993). Binge eating: Nature, assessment, and treatment. New York: Guilford Press.
- Fallon, A., & Rosen, P. (1985). Sex differences in perceptions of desirable body shape. Journal of Abnormal Psychology, 94, 102-105.
- Fava, M., Anderson, K., & Rosenbaum, J. (1990). Anger attacks: Possible variants of panic and major depressive disorders. American Journal of Psychiatry, 47, 867-870.
- Fava, M., Rappe, S., West, J., & Herzog, D. (1995). Anger attacks in eating disorders. Psychiatry Research, 56, 205-212.
- Feighner, J., Robins, E., Guze, S., Woodruff, R., Winokur, G., & Munoz, R. (1972). Diagnostic criteria for psychiatric research. Archives of General Psychiatry, 26, 57-63.
- Fenwick, S. (1880). On atrophy of the stomach and on the nervous affections of the digestive organs. London: Churchill.
- Fichter, M., Elton, M., Engel, K., Meyer, A., Mall, H., & Poustka, F. (1991). Structured Interview for Anorexia and Bulimia Nervosa (SIAB): Development of the new instrument for the assessment of eating disorders. International Journal of Eating Disorders, 10(5), 571-592.
- Fichter, M., & Noegel, R. (1990). Concordance for bulimia nervosa in twins. International Journal of Eating Disorders, 9(2), 255-263.

- Folsom, V., Krahm, D., & Canum, K. (1989). Sexual abuse: Role in eating disorders. New Research Program Abstracts. 142nd Annual Meeting of the American Psychiatric Association, Washington, DC: Author.
- Folsom, V., Krahm, D., Nairn, D., & Gold, L. (1993). The impact of sexual and physical abuse on eating disordered and psychiatric symptoms: A comparison of eating disordered and psychiatric inpatients. International Journal of Eating Disorders, 13, 249-257.
- Fornari, V., Kaplan, M., Sandberg, D., Matthews, M., Skolnick, N., & Katz, J. (1992). Depressive and anxiety disorders in anorexia nervosa and bulimia nervosa. International Journal of Eating Disorders, 12(1), 21-29.
- Fosson, A., Knibbs, J., Bryant-Waugh, R., & Lask, B. (1987). Early onset anorexia nervosa. Archives of Disease in Childhood, 62, 114-118.
- Frankel, J., Sadik, C., Dantzic, S., Charles, E., Roose, S., & Walsh, B. (1988). The systematic study of personality disorders in bulimic patients. Presented at the American Psychiatric Association Annual Meeting, Montreal PQ, Canada. In S. Kennedy, G. McVey, & R. Katz (1990), Personality disorders in anorexia nervosa and bulimia nervosa. Journal of Psychiatric Research 24(3), 259-269.
- Freeland, M., & Siegel, S. (1990). Separation-individuation difficulties and cognitive-behavioral indicators of eating disorders among college women. Journal of Counseling Psychology, 37(1), 74-78.
- Freeman, C., & Henderson, M. (1988). The BITE: Indices of agreement. British Journal of Psychiatry, 152, 575-577.
- Freeman, R., Thomas, C., Solyom, L., & Koopman, R. (1985). Clinical and personality correlates of body size overestimation in anorexia nervosa and bulimia nervosa. International Journal of Eating Disorders, 4, 439-456.
- Freud, S. (1954). The origins of psychoanalysis. Letters to Wilhelm Fleis, drafts and notes: 1887-1902. New York: Basic Books.
- Gable, R. K., & Wolf, M. B. (1993). Instrument development in the affective domain: Measuring attitudes and values in corporate and school settings (2nd ed). Boston: Kluwer Academic Publishers.
- Gaillac, V., & Samuel-Lajeunesse, B. (1992). The body image in eating disorders: A social-cultural concept? New Trends in Experimental and Clinical Psychiatry, 8(1), 13-17.

- Gard, M., & Freeman, C. (1996). The dismantling of a myth: A review of eating disorders and socioeconomic status. International Journal of Eating Disorders, 20(1), 1-12.
- Garfinkel, P. (1981). Some recent observations on the pathogenesis of eating disorders. Canadian Journal of Psychiatry, 6, 218-223.
- Garfinkel P., & Garner, D. (1982). Anorexia nervosa: A multi-dimensional perspective. New York: Basic Books.
- Garfinkel, P., Garner, D., & Rose, J. (1983). A comparison of characteristics in families of patients with anorexia nervosa and normal controls. Psychological Medicine, 13, 821-828.
- Garfinkel, P., Moldofsky, H., & Garner, D. (1980). The heterogeneity of anorexia nervosa: Bulimia as a distinct subgroup. Archives of General Psychiatry, 37, 1036-1040.
- Garner, D. (1990). Eating Disorder Inventory-2: Professional manual. Odessa, FL: Psychological Assessment Resources.
- Garner, D. (1993). Binge eating in anorexia nervosa. In C. Fairburn & G. Wilson (Eds.), Binge eating: Nature, assessment, and treatment (pp. 50-76). New York: Guilford Press.
- Garner, D., & Bemis, K. (1985). Cognitive therapy for anorexia nervosa. In D. Garner, & P. Garfinkel (Eds.), Handbook of psychotherapy for anorexia nervosa and bulimia (pp. 107-146). New York: Guilford Press.
- Garner, D., & Garfinkel, P. (1979). The Eating Attitudes Test: An index of the symptoms of anorexia nervosa. Psychological Medicine, 9, 273-279.
- Garner, D., & Garfinkel, P. (1980). Sociocultural factors in the development of anorexia nervosa. Psychological Medicine, 10, 647-656.
- Garner, D., & Garfinkel, P. (Eds.). (1985). Handbook of psychotherapy for anorexia nervosa and bulimia. New York: Guilford Press.
- Garner, D., & Garfinkel, P. (Eds.). (1988). Diagnostic issues in anorexia nervosa and bulimia nervosa. New York: Brunner/Mazel.

- Garner, D., Garfinkel, P., & O'Shaughnessy, M. (1985). The validity of the distinction between bulimia with and without anorexia nervosa. American Journal of Psychiatry, 142, 581-587.
- Garner, D., Garfinkel, P., Schwartz, D., & Thompson, M. (1980). Cultural expectations of thinness in women. Psychological Reports, 47, 483-491.
- Garner, D., & Garner, M. (1986). Self-concept deficiencies in eating disorders. In L. Hartman & K. Blankstein (Eds.), Perception of self in emotional disorder and psychotherapy (pp. 133-156). New York: Plenum Press.
- Garner, D., Olmsted, M., Bohr, Y., & Garfinkel, P. (1982). The Eating Attitudes Test: Psychometric features and clinical correlates. Psychological Medicine, 12, 871-878.
- Garner, D., Olmsted, M., Davis, R., Rockert, W., Goldbloom D., & Eagle, M. (1990). The association between bulimic symptoms and reported psychopathology. International Journal of Eating Disorders, 9(1), 1-15.
- Garner, D., Olmsted, M., & Garfinkel, P. (1983). Does anorexia nervosa occur on a continuum? International Journal of Eating Disorders, 2(4), 11-20.
- Garner, D., Olmsted, M., & Polivy, J. (1983). Eating Disorders Inventory. Odessa, FL: Psychological Assessment Resources.
- Gartner, A., Marcus, R., Halmi, K., & Loranger, A. (1989). DSM-III-R personality disorders in patients with eating disorders. American Journal of Psychiatry, 146, 1585-1591.
- Geist, R. (1984, Fall). Therapeutic dilemmas in the treatment of anorexia nervosa. Contemporary Psychotherapy Review, 2(1), pp. 115-142.
- Geist, R. (1985). Therapeutic dilemmas in the treatment of anorexia nervosa: A self-psychological perspective. In S. Emmett (Ed.), Theory and treatment of anorexia nervosa and bulimia: Biomedical, sociocultural, and psychological perspectives (pp. 268-288). New York: Brunner/Mazel.
- Gershon, E., Schreiber, J., & Hamovit, J. (1984). Anorexia nervosa and major affective disorders associated in families: A preliminary report. In S. Guze, F. Earls, & J. Barrett (Eds.), Childhood psychopathology and development (pp. 279-284). New York: Raven Press.

- Gleaves, D., & Eberenz, K. (1993). The psychopathology of anorexia nervosa: A factor analytic investigation. Journal of Psychopathology and Behavioral Assessment, 15(2), 141-152.
- Gleaves, D., & Eberenz, K. (1995). Assessing dissociative symptoms in eating disordered patients: Construct validation of two self-report measures. International Journal of Eating Disorders, 18(1), 99-102.
- Goldberg, S., Halmi, K., Eckert, E., Casper, R., Davis, J., & Roper, M. (1980). Attitudinal dimensions in anorexia nervosa. Journal of Psychiatric Research, 15, 239-251.
- Goldblatt, P., Moore, M., & Stunkard, A. (1965). Social factors in obesity. Journal of the American Medical Association, 192, 1039-1044.
- Goldbloom, D. (1993). Alcohol misuse and eating disorders: Aspects of an association. Alcohol and Alcoholism, 28(4), 375-381.
- Goldbloom, D., & Kennedy, S. (1995). Medical complications of anorexia nervosa. In K. Brownell & C. Fairburn (Eds.), Eating disorders and obesity: A comprehensive handbook (pp. 266-270). New York: Guilford Press.
- Goldbloom, D., Naranjo, C., Bremner, K., & Hicks, L. (1992). Eating disorders and alcohol abuse in women. British Journal of Addiction, 87(6), 913-920.
- Gomez, J., & Dally, P. (1980). Psychometric rating in the assessment of progress in anorexia nervosa. British Journal of Psychiatry, 136, 290-296.
- Goodsitt, A. (1983). Self-regulatory disturbances in eating disorders. International Journal of Eating Disorders, 2(1), 51-60.
- Goodsitt, A. (1985). Self-psychology and the treatment of anorexia nervosa. In D. Garner & P. Garfinkel (Eds.), Handbook of psychotherapy for anorexia nervosa and bulimia (pp. 55-82). New York: Guilford Press.
- Gottesman, I., & Prescott, C. (1989). Abuses of the MacAndrew MMPI Alcoholism Scale: A critical review. Clinical Psychology Review, 9(2), 223-242.
- Gowers, S., Crisp, A., Joughin, N., & Bhat, A. (1991). Pre-menarchal anorexia nervosa. Journal of Child Psychology and Psychiatry, 32(3), 515-524.

- Graham, J. R. (1987). The MMPI: A practical guide (2nd ed.). New York: Oxford University Press.
- Graham, J. R. (1990). MMPI-2: Assessing personality and psychopathology. New York: Oxford University Press.
- Graham, J. R. (1993). MMPI-2: Assessing personality and psychopathology (2nd ed.). New York: Oxford University Press.
- Graham, J. R., Timbrook, R., Ben-Porath, Y., & Butcher, J. (1991). Code type congruence between MMPI and MMPI-2: Separating fact from artifact. Journal of Personality Assessment, 57(2), 205-215.
- Greene, R. (1990a). Stability of MMPI scale scores within four code types across forty years. Journal of Personality Assessment, 55(1,2) 1-6.
- Greene, R. (1990b). The MMPI: An interpretive manual (2nd ed.). New York: Grune & Stratton.
- Groth-Marnat, G. (1990). Handbook of psychological assessment (2nd ed.). New York: Van Nostrand Reinhold.
- Gull, W. (1873). Anorexia nervosa (apepsia/hysterica, anoexia hysterica). In M.R. Kaufman & M. Helman (Eds.), Evolution of psychosomatic concepts: Anorexia nervosa: A paradigm (pp.132-138). New York: International Press.
- Gull, W. (1888). Anorexia nervosa. Lancet, 1, 516-517.
- Gwirtsman, H., Roy-Byrne, P., Yager, J. (1983). Neuroendocrine abnormalities in bulimia. American Journal of Psychiatry, 140, 559-563.
- Habermas, T. (1989). The psychiatric history of anorexia nervosa and bulimia nervosa: Weight concerns and the bulimic symptoms in early case reports. International Journal of Eating Disorders, 8, 259-273.
- Habermas, T. (1992). Further evidence on early case descriptions of anorexia nervosa and bulimia nervosa. International Journal of Eating Disorders, 11(4), 351-359.
- Hall, R., Tice, L., Beresford, T., Wooley, B., & Hall, A. (1989). Sexual abuse in patients with anorexia nervosa and bulimia. Psychosomatics, 30(1), 73-79.
- Halmi, K. A. (1974). Anorexia nervosa: Demographic and clinical features in 94 cases. Psychosomatic Medicine, 36(1), 18-25.

- Halmi, K. A. (Ed.). (1992). The psychobiology and treatment of anorexia nervosa and bulimia nervosa. Washington, DC: American Psychiatric Press.
- Halmi, K. A., Eckert, E., Marchi, P., Sampugnaro, V., Apple, R., & Cohen, J. (1991). Comorbidity of psychiatric diagnoses in anorexia nervosa. Archives of General Psychiatry, 48(8), 712-718.
- Halmi, K. A., Falk, J., & Schwartz, E. (1981). Binge-eating and vomiting: A survey of a college population. Psychological Medicine, 11, 697-706.
- Halmi, K. A., Goldberg, S., & Eckert, E. (1977). Pretreatment evaluation in anorexia nervosa. In R. Vigersky (Ed.), Anorexia nervosa (pp. 43-54). New York: Raven Press.
- Halmi, K. A., Struss, A., & Goldberg, S. (1978). An investigation of weight in parents of anorexia nervosa patients. Journal of Nervous and Mental Disorders, 166, 358-359.
- Hamilton, K., & Waller, G. (1993). Media influences on body size estimation in anorexia and bulimia: An experimental study. British Journal of Psychiatry, 162, 837-840.
- Hammond, W. (1879). Fasting girls: Their physiology and pathology. New York: Putnam.
- Harris, R., & Lingo, J. (1955). Subscales for the Minnesota Multiphasic Personality Inventory. Mimeographed materials. The Langley Porter Clinic. San Francisco, CA.
- Harris, R., & Lingo, J. (1968). Subscales for the Minnesota Multiphasic Personality Inventory. Mimeographed materials. The Langley Porter Clinic. San Francisco, CA.
- Hathaway, S. (1983). Foreword. In R. Colligan, D. Osborne, W. Swenson, & K. Offord (Eds.), The MMPI: A contemporary normative study (p. iv). New York: Praeger.
- Hatsukami, D., Owen, P., Pyle, R., & Mitchell, J. (1982). Similarities and differences on the MMPI between women with bulimia and women with alcohol or drug abuse problems. Addictive Behavior, 7, 435-439.

- Heatherton, T., & Polivy, J. (1992). Chronic dieting and eating disorders: A spiral model. In J. Crowther, D. Tennenbaum, S. Obfoll, & M. Stephens (Eds.), The etiology of bulimia nervosa: The individual and family context (pp. 133-155). Philadelphia, PA: Hemisphere Publishing Corporation.
- Heavy, A., Parker, Y., Bhat, A., Crisp, A., & Gowers, S. (1989). Anorexia nervosa and marriage. International Journal of Eating Disorders, 8(3), 275-284.
- Henzel, H. (1984). Diagnosing alcoholism in patients with anorexia nervosa. American Journal of Alcohol Abuse, 10, 461-466.
- Herman, C., & Polivy, J. (1988). Restraint and excess in dieters and bulimics. In K. Pirke, D. Ploog, & W. Verdereycken (Eds.), The psychobiology of anorexia nervosa (pp. 33-41). Heidelberg, Germany: Springer.
- Herzog, D. (1984). Are anorectics and bulimics depressed? American Journal of Psychiatry, 141, 1594-1597.
- Herzog, D., Keller, M., Lavori, P., Kenny, G., & Sacks, N. (1992). The prevalence of personality disorders in 210 women with eating disorders. Journal of Clinical Psychiatry, 53(5), 147-152.
- Higgs, J., Goodyer, I., & Birch, J. (1989). Anorexia nervosa and food avoidance emotional disorder. Archives of Disease in Childhood, 64, 346-351.
- Hoek, H. (1993). Review of the epidemiological studies of eating disorders. International Review of Psychiatry, 5, 61-74.
- Hoek, H. (1995). Distribution of eating disorders. In K. Brownell and C. Fairburn (Eds.), Eating disorders and obesity: A comprehensive handbook (pp. 207-211). New York: Guilford Press.
- Holderness, C., Brooks-Gunn, J., & Warren, M. (1994). Co-morbidity of eating disorders and substance abuse: Review of the literature. International Journal of Eating Disorders, 16(1), 1-34.
- Hood, J., Moore, T., & Garner, D. (1982). Locus of control as a measure of ineffectiveness in anorexia nervosa. Journal of Consulting and Clinical Psychology, 50(1), 3-13.
- Hotelling, K. (1998). Eating disorders on campus: Lecture and naratives on eating disorders and relted topics. National Eating Disorders Screening Program, Wellesley Hills, MA.

- Hsu, L. (1987). Are the eating disorders becoming more common in Blacks? International Journal of Eating Disorders, 6(1), 113-124.
- Hsu, L. (1988). The outcome of anorexia nervosa: A reappraisal. Psychological Medicine, 18(4), 807-812.
- Hsu, L. (1990). Eating disorders. New York: Guilford Press.
- Hsu, L., Chesler, B., & Santhouse, R. (1990). Bulimia nevosa in eleven sets of twins: A clinical report. International Journal of Eating Disorders, 9(2), 275-282.
- Hsu, L., Crisp, A., & Callender, J. (1992). Recovery in anorexia nervosa: The patient's perspective. International Journal of Eating Disorders, 11(2), 341-350.
- Hsu, L., & Crisp, A. (1980). The Crown-Crisp experiential index profile in anorexia nervosa. British Journal of Psychiatry, 136, 567-573.
- Hsu, L., Crisp, A., & Harding, B. (1979). Outcome of anorexia nervosa. Lancet, 9, 62-65.
- Hsu, L., Kaye, W., & Weltzin, T. (1993). Are the eating disorders related to obsessive compulsive disorder? International Journal of Eating Disorders, 14(3), 305-318.
- Hsu, L., & Sobkiewicz, T. (1991). Body image disturbance: Time to abandon the concept of eating disorders. International Journal of Eating Disorders, 10(1), 15-30.
- Hsu, L., & Zimmer, B. (1988). Eating disorders in old age. International Journal of Eating Disorders, 7(1), 133-138.
- Hudson, J., Harrison, G., Jonas, J., & Yurgelun-Todd, D. (1983). Phenomenologic relationships of eating disorders to major affective disorder. Psychiatry Research, 9, 345-354.
- Hudson, J., Pope, H., & Yurgelun-Todd, D. (1983). Family history study of anorexia nervosa and bulimia. British Journal of Psychiatry, 142, 133-138.
- Hudson, J., Pope, H., Jr., Yurgelun-Todd, D., Jonas, J., & Frankenburg, F. (1987). A controlled study of lifetime prevalence of affective and other psychiatric disorders in our bulimic patients. American Journal of Psychiatry, 144, 1283-1287.

- Hudson, J., Weiss, R., Pope H., Jr., McElroy, S., & Mirin, S. (1992). Eating disorders in hospitalized substance abusers. American Journal of Drug and Alcohol Abuse, 18(1), 75-85.
- Humphrey, L. (1983). A sequential analysis of family processes in anorexia and bulimia. Understanding anorexia nervosa and bulimia: Report of the fourth Roth Conference on medical research (pp. 37-46). Columbus, OH: Ross Laboratories.
- Humphrey, L. (1986). Structural analysis of parent-child relationships in eating disorders. Journal of Abnormal Psychology, 95, 395-402.
- Humphrey, L. (1988). Relationships within subtypes of anorexic, bulimic and normal families. Journal of American Academy of Child and Adolescent Psychiatry, 27(5), 544-551.
- Humphrey, L. (1989). Observed family interaction among subtypes of eating disorders using structural analysis of social behavior. Journal of Consulting and Clinical Psychology, 57(2), 206-214.
- Humphrey, L. (1992). Family relationships. In K. A. Halmi (Ed.), The psychobiology and treatment of anorexia nervosa and bulimia nervosa (pp. 263-284). Washington, DC: American Psychiatric Press.
- Humphrey, L. L., & Stern, S. (1988). Object relations and the family system in bulimia: A theoretical integration. Journal of Marital and Family Therapy, 14(4), 337-350.
- Humphrey, L. L., & Villejo, R. E. (1992). Unpublished manuscript. In K. A. Halmi (Ed.), The psychobiology and treatment of anorexia nervosa and bulimia nervosa (p. 269). Washington, DC: American Psychiatric Press.
- Irving, L. (1990). Mirror images: Effects of the standard of beauty on the self- and body-esteem of women exhibiting varying levels of bulimic symptoms. Journal of Social and Clinical Psychology 9, 230-242.
- Janet, P. (1920). The major symptoms of hysteria. New York: Macmillan Co.
- Janet, P. (1957). Obsessions and psychasthenia. In R. May (Ed.), Existence (pp. 331-337). New York: Basic Books.
- Johnson, C. (Ed.). (1991). Psychodynamic treatment of anorexia nervosa and bulimia nervosa. New York: Guilford Press.

- Johnson, C., & Connors, M. (1987). The etiology and treatment of bulimia nervosa: A biopsychosocial perspective. New York: Basic Books.
- Johnson, C., & Flach, A. (1985). Family characteristics of 105 patients with bulimia. American Journal of Psychiatry, 142, 1321-1324.
- Johnson, C., & Larson, R. (1982). Bulimia: An analysis of moods and behavior. Psychosomatic Medicine, 4, 341-351.
- Johnson, C., Stuckey, M., Lewis, L., & Schwartz, D. (1982). Bulimia: A descriptive survey of 316 cases. International Journal of Eating Disorders, 1(1), 1-15.
- Johnson, C., & Pure, D. (1986). Assessment of bulimia: A multidimensional model. In K. Brownell & J. Foreyt (Eds.), Handbook of eating disorders: Physiology, psychology, and treatment of obesity, anorexia, and bulimia (pp. 405-449). New York: Basic Books.
- Johnsone-Sabine, E., Wood, K., Patton, G., Mann, A., & Wakeling, A. (1988). Abnormal eating attitudes in London schoolgirls--A prospective epidemiological study: Factors associated with abnormal response on screening questionnaires. Psychological Medicine, 18, 615-622.
- Jonas, J., Pope, H., Hudson, J., & Satlin, A. (1984). Undiagnosed vomiting in an older woman: Unsuspected bulimia. American Journal of Psychiatry, 141, 902-903.
- Jones, D. (1980). Epidemiology of anorexia nervosa in Monroe County, New York: 1960-1976. Psychosomatic Medicine, 42, 551-558.
- Jones, D., Cheshire, N., & Moorhouse, H. (1985). Anorexia nervosa, bulimia, and alcoholism: Association of eating disorders and alcohol. Journal of Psychiatry Research, 19, 377-380.
- Jones, R., & Edelmann, R. (1989). Self-control deficits and eating problems: A reexamination. International Journal of Eating Disorders, 8(6), 695-699.
- Jourard, S., & Secord, P. (1955). Body-cathexis and the ideal female figure. Journal of Abnormal and Social Psychology, 50, 243-246.
- Kagan, D., & Squires, R. (1984). Compulsive eating, dieting, stress, and hostility among college students. Journal of College Student Personnel, 25, 213-220.

- Kagan, D., & Squires, R. (1985). Family cohesion, family adaptability, and eating behaviors among college students. International Journal of Eating Disorders, 4, 267-279.
- Kales, E. (1990). Macronutrient analysis of binge eating in bulimia. Physiology and Behavior, 48(6), 837-840.
- Kalucy, R., Crisp, A., & Harding, B. (1977). A study of 56 families with anorexia nervosa. British Journal of Medicine and Psychology, 50, 381-395.
- Kaplan, A., & Garfinkel, P. (1993). Medical issues and the eating disorders: The interface. New York: Brunner/Mazel Publishers.
- Kaplan, L. (1991). Female perversions: The temptations of Emma Bovary. New York: Nan A. Talese/Doubleday.
- Kassett, J., Gershon, E., & Maxwell, M. (1989). Psychiatric disorders in the first-degree relatives of probands with bulimia nervosa. American Journal of Psychiatry, 146, 1468-1471.
- Kay, D., & Leigh, D. (1954). The natural history, treatment, prognosis of anorexia nervosa, based on a study of 38 patients. Journal of Mental Science, 100, 411-439.
- Kaye, W. H., Bastiani, A.M., & Moss, H. (1995). Cognitive style of patients with anorexia nervosa and bulimia nervosa. International Journal of E.D. 18(3), 287-290.
- Kaye, W. H., & Weltzin, T. E. (1991). Serotonin activity in anorexia and bulimia nervosa: Relationship to the modulation of feeding and mood. Journal of Clinical Psychiatry, 52(Supplement), 41-48.
- Kearney-Cooke, A. (1988). Group treatment of sexual abuse among women with eating disorders. Women and Therapy, 7(1), 5-21.
- Kearney-Cooke, A., & Striegel-Moore, R. (1994). Treatment of childhood sexual abuse in anorexia nervosa and bulimia nervosa: A feminist psychodynamic approach. International Journal of Eating Disorders, 15(4), 305-319.
- Keck, P., Pope, H. Jr., Hudson, J., McElroy, S., Yurgelun-Todd, D., & Hundert, E. (1990). A controlled study of phenomenology and family history in outpatients with bulimia nervosa. Comprehensive Psychiatry, 31, 275-283.

- Kendell, R., Hall, D., Hailey, A., & Babigan, H. (1973). The epidemiology of anorexia nervosa. Psychological Medicine, 3, 200-203.
- Kendler, K., MacLean, C., Neale, M., Kessler, R., Heath, A., & Eaves, L. (1991). The genetic epidemiology of bulimia nervosa. American Journal of Psychiatry, 148, 1627-1637.
- Kennedy, S., Kaplan, A., Garfinkel, P., Rockert, W., Toner, B., & Abbey, S. (1994). Depression in anorexia nervosa and bulimia nervosa: Discriminating depressive symptoms and episodes. Journal of Psychosomatic Research, 38(7), 773-782.
- Kennedy, S., McVey, G., & Katz, R. (1990). Personality disorders in anorexia nervosa and bulimia nervosa. Journal of Psychiatric Research, 24(3), 259-269.
- King, A. (1963). Primary and secondary anorexia nervosa syndromes. British Journal of Psychiatry, 109, 470-479.
- King, G., Herman, C., & Polivy, J. (1987). Food perception in dieters and non dieters. Appetite, 8, 147-158.
- King, M. (1986). Eating disorders in a general practice. British Journal of Medicine, 293, 1412-1414.
- King, M. (1993). Cultural aspects of eating disorders. International Review of Psychiatry, 5, 205-216.
- Kinzl, J., Traweger, C., Geunther, V., & Biebl, W. (1994). Family background and sexual abuse associated with eating disorders. American Journal of Psychiatry, 151, 1127-1131.
- Kleiger, J., & Kinsman, R. (1980). The development of an alexithymia scale. Psychotherapy and Psychosomatics, 34(1), 17-24.
- Kog, E., & Vandereycken, W. (1985). Family characteristics of anorexia nervosa and bulimia: A review of the research literature. Clinical Psychology Review, 5, 159-180.
- Kog, E., & Vandereycken, W. (1989). Family interaction in eating disorderd patients and normal controls. International Journal of Eating Disorders, 8(1), 11-23.
- Kog, E., Vertommen, H., & Degroote, T. (1985). Family interaction research in anorexia nervosa: The use and misuse of a self-report questionnaire. International Journal of Family Psychiatry, 6, 227-243.

- Lacey, J. (1982). The bulimic syndrome at normal body weight: Reflections on pathogenesis and clinical features. International Journal of Eating Disorders, 2, 59-62.
- Lacey, J. (1990). Incest, incestuous fantasy and indecency: A clinical catchment areas study of normal-weight bulimic women. British Journal of Psychiatry, 157, 399-403.
- Lacey, J., Coker, S., & Birtchnell, S. (1986). Bulimia: Factors associated with its etiology and maintenance. International Journal of Eating Disorders, 5, 475-487.
- Lacey, J., & Dolan, B. (1988). Bulimia in British Blacks and Asians. British Journal of Psychiatry, 152(1), 73-79.
- Lacey, J., & Evans, C. (1986). The impulsivist: A multi-impulsive personality disorder. British Journal of Addictions, 81(5), 641-649.
- Lacey, J., & Moureli, E. (1986). Bulimic alcoholics: Some features of a clinical subgroup. British Journal of Addiction, 81, 389-393.
- Laesle, R., Wittchen, H., Fichter, M., & Pirke, K. (1989). The significance of subgroups of bulimia and anorexia nervosa: Lifetime frequency of psychiatric disorders. International Journal of Eating Disorders, 8, 569-574.
- Lasegue, E. (1873). On hysterical anorexia. Medical Times Gazette, 2, 265-266, 367-369.
- Lawrence, M. (Ed.). (1987). Fed up and hungry: Women, oppression, and food. New York: Peter Bedrick Books.
- Leon, G., Carroll, K., Chernyk, B., & Finn, S. (1985). Binge eating and associated habit patterns within college student and identified bulimic populations. International Journal of Eating Disorders, 8, 569-574.
- Leon, G., Lucas, A., Colligan, R., Ferdinande, R., & Kamp, J. (1985). Sexual, body-image, and personality attitudes in anorexia nervosa. Journal of Abnormal Child Psychology, 13, 245-257.
- Levin, A., & Hyler, S. (1986). DSM-III personality diagnosis in bulimia. Comprehensive Psychiatry, 27, 47-53.

- Levine, M., & Smolak, L. (1992). Toward a model of the developmental psychopathology of eating disorders: The example of early adolescence. In J. Crowther, D. Tennenbaum, S. Hobfoll, & M. Stephens (Eds.), The etiology of bulimia nervosa: The individual and family context (pp. 59-80). Washington, DC: Hemisphere Press.
- Levitt, E. E., Browning, J.M., Freeland, L.J. (1992). The effect of MMPI-2 on the scoring of special scales derived from MMPI-1. The Journal of Personality Assessment, 59(1), 22-31.
- Levitt, E. E. (1990). A structural analysis of the impact of MMPI-2 on MMPI-1. Journal of Personality Assessment, 55(3,4), 562-577.
- Lilenfield, L. R. (1995). The use of the MMPI-A in the identification of risk factors for the future development of eating disorders (Doctoral dissertation, University of Minnesota, 1995). Dissertation Abstracts International, 56, p. 2333.
- Lindner, R. (1955). The case of Laura. In R. Linder, The fifty minute hour. New York: Holt, Rinehart.
- Logue, C., Crowe, R., & Bean, J. (1989). A family study of anorexia nervosa and bulimia. Comprehensive Psychiatry, 30, 179-188.
- Lorand, S. (1943). Anorexia nervosa: Report of a case. Psychosomatic Medicine, 5, 282-292.
- Love, S., Ollendick, T., Johnson, C., & Schlesinger, S. (1985). A preliminary report on the prediction of bulimic behaviors: A social learning analysis. Bulletin of the Society of Psychologists in Addictive Behaviors, 4(1), 93-101.
- Lubin, B., Larsen, R., Matarazzo, J., & Seever, M. (1985). Psychological test usage patterns in five professional settings. American Psychologist, 40, 857-861.
- Lucas, A., Beard, C., O'Fallon, W., & Kurkland, L. (1991). 50-year trends in the incidence of anorexia nervosa in Rochester, MN: A population-based study. American Journal of Psychiatry, 148, 917-922.
- MacAndrew, C. (1965). The differentiation of male alcoholic outpatients from nonalcoholic psychiatric patients by means of the MMPI. Quarterly Journal of Studies on Alcohol, 26(2), 238-246.

- MacAndrew, C. (1967). Self-reports of male alcoholics: A dimensional analysis of certain differences from nonalcoholic male psychiatric outpatients. Quarterly Journal of Studies on Alcohol, 28(1), 43-51.
- MacCulloch, J. (1912). Fasting. In J. Hastings (Ed.), Encyclopedia of religion and ethics (Vol. 5, pp. 759-765). New York: Charles Scribner's Sons.
- Maceyko, S., & Nagelberg, D. (1985). The assessment of bulimia in high school students. Journal of School Health, 55, 135-137.
- Marcus, R., & Halmi, K. A. (1988). Eating disorders in substance abuse patients. Abstract presented at the 141st Annual Meeting of the American Psychiatric Association.
- McCutcheon, R., & Nolan, A. (1995). Chewing and spitting out food--A neglected symptom? International Journal of Eating Disorders, 17(2), 197-200.
- McFarland, B. (1995). Brief therapy with eating disorders: A practical guide to solution-focused work with clients. San Francisco: Jossey Bass.
- McLaughlin, E., Karp, S., & Herzog, D. (1985). Sense of ineffectiveness in women with eating disorders: A clinical study of anorexia and bulimia. International Journal of Eating Disorders, 4, 511-523.
- Meadows, G., Palmer, R., Newball, E., & Kenrick, J. (1986). Eating attitudes and disorders in young women: A general practice based survey. Psychological Medicine, 16, 351-357.
- Meyer, B., & Weinroth, L. (1957). Observations on psychological aspects of anorexia nervosa: Report of a case. Psychosomatic Medicine, 19, 389-398.
- Miller, K. J. (1993). Prevalence and process of disclosure of childhood sexual abuse among eating-disordered women. Eating Disorders: The Journal of Treatment and Prevention, 1(3), 211-225.
- Mintz, L., & Betz, N. (1988). Prevalence and correlates of eating disordered behaviors among undergraduate women. Journal of Counseling Psychology, 35(4), 463-471.
- Mintz, L., O'Halloran, M., Mulholland, Z., & Schneider, P. (1997). Questionnaire for eating disorder diagnosis: Reliability and validity of operationalizing DSM-IV criteria into a self-report format. Journal of Counseling Psychology, 44(1), 63-79.

- Minuchin, S., Baker, L., Rosman, B., Leibman, R., Milman, L., & Todd, T. (1975). A conceptual model of psychosomatic illness in children. Archives of General Psychiatry, 32, 1031-1038.
- Minuchin, S., Rosman, B., & Baker, L. (1978). Psychosomatic families. Cambridge, MA: Harvard University Press.
- Mitchell, J., Jr. (Ed.). (1985). The ninth mental measurements yearbook. Lincoln, NE: Buros Institute of Mental Measurements.
- Mitchell, J. (1986a). Anorexia nervosa: Medical and physiological aspects. In K. Brownell & J. Foreyt (Eds.), Handbook of eating disorders: Physiology, psychology, and treatment of obesity, anorexia, and bulimia (pp. 247-265). New York: Basic Books.
- Mitchell, J. (1986b). Bulimia: Medical and physiological aspects. In K. Brownell & J. Foreyt (Eds.), Handbook of eating disorders: Physiology, psychology, and treatment of obesity, anorexia, and bulimia (pp. 379-388). New York: Basic Books.
- Mitchell, J. (1995). Medical complications of bulimia nervosa. In K. Brownell, & C. Fairburn (Eds.), Eating disorders and obesity: A comprehensive handbook (pp. 271-275). New York: Guilford Press.
- Mitchell, J., & Boutacoff, L. (1986). Laxative abuse complicating bulimia: Medical and treatment implications. International Journal of Eating Disorders, 5, 325-334.
- Mitchell, J., Fletcher, L., Gibeau, L., Pyle, R., & Eckert, E. (1992). Shoplifting in bulimia nervosa. Comprehensive Psychiatry, 33(5), 342-345.
- Mitchell, J., Hatsukami, D., Eckert, E., & Pyle, R. (1985). Characteristics of 275 patients with bulimia. American Journal of Psychiatry, 142, 482-485.
- Mitchell, J., Pomeroy, C., & Huber, M. (1988). A clinician's guide to the eating disorders medicine cabinet. International Journal of Eating Disorders, 7(2), 221-223.
- Mizes, J. (1988). Controlled comparison of bulimics and noneating disordered controls on the MMPI-168. International Journal of Eating Disorders, 7(3), 425-428.

- Moos, R., & Moos, B. (1980). Family Environment Scale. Palo Alto, CA: Consulting Psychologists Press.
- Morgan, C., Wiederman, M., & Pryor, T. (1995). Sexual functioning and attitudes of eating disordered women: A follow-up study. Journal of Sex and Marital Therapy, 21(2), 67-77.
- Morgan, H., & Russell, G. (1975). Value of family background and clinical features of predictors of long-term outcome in anorexia nervosa: Four year follow-up study of 42 patients. Psychological Medicine, 5, 355-371.
- Morton, R. (1689). Philhisiologica: On a treatise of consumptions. London: J. Johnson & J. Robinson.
- Motherby, G. (1785). A new medical dictionary: Or a general respiratory of physic. London: J. Johnson & J. Robinson.
- Murray, S., Touyz, S., & Beumont, P. (1995). The influence of personal relationships on women's eating behavior and body satisfaction. Eating Disorders: The Journal of Treatment and Prevention, 3(3), 243-252.
- Myers, P., & Biocca, F. (1992). The elastic body image: The effect of television\ advertising and programming on body image distortions in young women. Journal of Communication, 42, 108-133.
- Nagelberg, D., Hale, S., & Ware, S. (1984). The assessment of symptoms and personality correlates in female college students. Journal of Clinical Psychology, 40, 440-445.
- Nasser, M. (1988). Culture and weight consciousness. Journal of Psychosomatic Research, 32(6), 753-577.
- Nevo, S. (1985). Bulimic symptoms: Prevalence and ethnic differences among college women. International Journal of Eating Disorders, 4, 151-168.
- Norman, D., Blais, M., & Herzog, D. (1993). Personality characteristics of eating disordered patients as identified by the Millon Clinical Multiaxial Inventory. Journal of Personality Disorders, 7(1), 1-9.
- Norman, D., & Herzog, D. (1983). Bulimia, anorexia nervosa, and anorexia nervosa with bulimia: A comparative analysis of MMPI profiles. International Journal of Eating Disorders, 2(1), 43-52.

- Norman D., & Herzog, D. (1984). Persistent social maladjustment in bulimia: A one-year follow-up. American Journal of Psychiatry, 141, 444-446.
- Nudelman, S., Rosen, J., & Leitenberg, H. (1988). Dissimilarities in eating attitudes, body image distortion, depression, and self-esteem between high-intensity male runners and women with bulimia nervosa. International Journal of Eating Disorders, 7(5), 625-634.
- Nunnally, J. (1978). Psychometric theory. New York: McGraw Hill.
- Olson, D., Bell, R., & Portner, J. (1978). Family Adaptability and Cohesion Evaluation Scale. St. Paul, MN: Family Social Science Press.
- Olson, D., McCubbin, H., Barnes, H., Larsen, A., Muxien, M., & M. Wilson. (1982). Family Inventories. Minneapolis, MN: Family Social Science.
- Oppenheimer, R., Howells, K., Palmer, L., & Chaloner, D. (1983). Adverse sexual experiences in childhood and clinical eating disorders: A preliminary description. Journal of Psychiatric Research, 19, 157-161.
- Orbach, S. (1978). Fat is a feminist issue. London: Paddington.
- Ordman, A., & Kirschenbaum, D. (1986). Bulimia: Assessment of eating, psychological adjustment and familial characteristics. International Journal of Eating Disorders, 5(5), 865-878.
- Orleans, C., & Barnett, L. (1984). Bulimarexia: Guidelines for behavioral assessment and treatment. In R. Hawkins, W. Fremouw, & P. Clement (Eds.), The binge-purge syndrome: Diagnosis, treatment and research (pp. 144-156). New York: Springer.
- Palmer, R. (1979). Dietary chaos syndrome: A useful new term? British Journal of Medical Psychology, 52, 187-190.
- Palmer, R. (1995). Sexual abuse and eating disorders. In K. Brownell & C. Fairburn (Eds.), Eating disorders and obesity: A comprehensive handbook (pp. 230-233). New York: Guilford Press.
- Palmer, R., Chaloner, D., & Oppenheimer, R. (1992). Childhood sexual experiences with adults reported by female psychiatric patients. British Journal of Psychiatry, 160, 261-265.

- Palmer, R., & Jones, M. (1939). Anorexia nervosa as a manifestation of compulsion neurosis. Archives of Neurological Psychiatry, 41, 856-861.
- Palmer, R., Oppenheimer, R., Dignon, A., Chaloner, D., & Howells, K. (1990). Childhood sexual experiences with adults reported by women with eating disorders: An extended series. British Journal of Psychiatry, 156, 699-703.
- Parry-Jones, B., & Parry-Jones, W. (1991). Bulimia: An archival review of its history in psychosomatic medicine. International Journal of Eating Disorders, 10(2), 129-143.
- Parry-Jones, B., & Parry-Jones, W. (1995). History of bulimia and and bulimia nervosa. In K. Brownell & C. Fairburn (Eds.), Eating disorders and obesity: A comprehensive handbook (pp. 145-150). New York: Guilford Press.
- Patton, G. (1988). The spectrum of eating disorders in adolescence. Journal of Psychosomatic Research, 32(6), 579-584.
- Patton, G., & King, M. (1991). Epidemiological study of eating disorders. Psychological Medicine, 21, 287-291.
- Pendleton, L., Moll, S.H., Tisdale, M.J., & Marler, M.R. (1990). The 4-5-6 configuration on the MMPI in bulimics vs. controls. Journal of Clinical Psychology, 46(6), 811-816.
- Peveler, R., & Fairburn, C. (1990). Eating disorders in women who abuse alcohol. British Journal of Addiction, 85(12), 1633-1638.
- Phelan, P. (1987). Cognitive correlates of bulimia: The Bulimic Thoughts Questionnaire. International Journal of Eating Disorders, 6, 593-607.
- Pierloot, R., Houben, M., & Acke, G. (1988). Are anorexia nervosa patients alexithymic? Acta Psychiatrica Belgica, 88(3), 222-232.
- Pike, K., Loeb, K., & Walsh, T. (1995). Binge eating and purging. In D. Allison (Ed.), Handbook of assessment methods for eating behaviors and weight-related problems (pp. 303-346). Thousand Oaks, CA: Sage Press.
- Pillay, M., & Crisp, A. (1977). Some psychological characteristics of patients with anorexia nervosa whose weight has been newly restored. British Journal of Medical Psychology, 50, 375-380.

- Piran, N., Kennedy, S., Garfinkel, P., & Owens, M. (1985). Affective disturbance in eating disorders. Journal of Nervous and Mental Disease, 173, 395-400.
- Piran, N., Kennedy, S., Garfinkel, P., & Whynot, C. (1988). Eating disorders, affective illness and borderline personality disorder [Letter to the editor]. Journal of Clinical Psychiatry, 49, 125.
- Piran, N., Lerner, P., Garfinkel, R., Kennedy, S., & Brouillette, C. (1988). Personality disorders in anorexic patients. International Journal of Eating Disorders, 7, 589-599.
- Polivy, J. (1989). Is dieting itself an eating disorder? BASH Magazine, 8, 186-190.
- Polivy, J., & Herman, C. (1985). Dieting and bingeing: A causal analysis. American Psychologist, 40, 193-201.
- Polivy, J., & Herman, C. (1987). Diagnosis and treatment of normal eating. Journal of Consulting and Clinical Psychology, 55, 635-644.
- Polivy, J., & Herman, C. (1995). Dieting and its relation to eating disorders. In K. Brownell & C. Fairburn (Eds.), Eating disorders and obesity: A comprehensive handbook (pp. 83-86). New York: Guilford Press.
- Polivy, J., Herman, C., Olmsted, M., & Jazwinski, C. (1984). Restraint and binge eating. In R. Hawkins, W. Fremouw, & P. Clement (Eds.), The binge purge syndrome: Diagnosis, treatment and research (pp. 104-122). New York: Pergamon Press.
- Pope, H., Jr., Champoux, R., & Hudson, J. (1987). Eating disorders and socioeconomic class: Anorexia nervosa and bulimia in nine communities. Journal of Nervous and Mental Diseases, 175, 620-623.
- Pope, H., Jr., Frankenburg, F., Hudson, J., Jonas, J., & Yurgelun-Todd, D. (1987). Is bulimia associated with borderline personality disorder? A controlled study. Journal of Clinical Psychiatry, 48, 181-184.
- Pope, H., Jr., & Hudson, J. (1989). Are eating disorders associated with borderline personality disorder? A critical review. International Journal of Eating Disorders, 8(1), 1-9.
- Pope, H., Jr., & Hudson, J. (1992). Is childhood sexual abuse a risk factor for bulimia nervosa? American Journal of Psychiatry, 149, 455-463.

- Pope, H., Jr., Hudson, J., & Yurgelun-Todd, D. (1984a). Anorexia nervosa and bulimia among 300 suburban women shoppers. American Journal of Psychiatry, 141, 292-294.
- Pope, H., Jr., Hudson, J., & Yurgelun-Todd, D. (1984b). Prevalence of anorexia nervosa and bulimia in three student populations. International Journal of Eating Disorders, 3(1), 45-51.
- Powdermaker, H. (1973). An anthropological approach to the problem of obesity. In N. Kiell (Ed.), The psychology of obesity (pp. 75-83). Springfield, IL: Charles C. Thomas.
- Powers, P., Coovert, D., Brightwell, D., & Stevens, B. (1988). Other psychiatric disorders among bulimic patients. Comprehensive Psychiatry, 29, 503-508.
- Pribor, E., & Dinwiddie, S. (1992). Psychiatric correlates of incest in childhood. American Journal of Psychiatry, 149(1), 52-56.
- Probst, M., Vandereycken, W., van Coppenolle, H., & Vanderlinden, J. (1995). The Body Attitude Test for patients with an eating disorder: Psychometric characteristics of a new questionnaire. Eating Disorders: The Journal of Treatment and Prevention, 3(2), 133-144.
- Pryor, T., Wiederman, M., & McGilley, B. (1996). Laxative abuse among women with eating disorders: An indication of psychopathology? International Journal of Eating Disorders, 20(1), 13-18.
- Pryor, T.L. (1995). Diagnostic criteria for eating disorders: DSM-IV revisions. Psychiatric Annals, 25(1), 40-45.
- Pryor, T.L., Johnson, T. Wiederman, M.W., Boswell, D.L. (1995). The clinical significance of the symptom denial among women with anorexia. Eating Disorders: The Journal of Treatment and Prevention, 3(4), 293-303.
- Pyle, R., Halvorson, P., Neuman, P., & Mitchell, J. (1986). The increasing prevalence of bulimia in freshman college students. International Journal of Eating Disorders, 5, 631-647.
- Pyle, R., Mitchell, J., & Eckert, E., (1981). Bulimia: A report of 32 cases. Journal of Clinical Psychiatry, 42(2), 60-64.

- Pyle, R., Mitchell, J., Eckert, E., Halverson, P., Neuman, P., & Goff, G. (1983). The incidence of bulimia in freshman college students. International Journal of Eating Disorders, 2(1), 75-85.
- Raciti, M., & Norcross, J. (1987). The EAT and EDI: Screening, interrelationships, and psychometrics. International Journal of Eating Disorders, 6(4), 579-586.
- Rahman, L., Richardson, H., & Ripley, H. (1939). Anorexia nervosa with psychiatric observations. Psychosomatic Medicine, 1, 335-365.
- Rampling, D. (1985). Ascetic ideals and anorexia nervosa. Journal of Psychiatric Research, 19(1), 89-94.
- Rand, C., & Kulda, J. (1990). Epidemiology of bulimia and symptoms in a general population: Sex, age, race and socioeconomic status. International Journal of Eating Disorders, 11(1), 37-44.
- Rastam, M., & Gillberg, C. (1991). The family background in anorexia nervosa: A population-based study. Journal of the American Academy of Child and Adolescent Psychiatry, 30(2), 283-289.
- Ranseen, J.D., & Humphries, L.L. (1992). The intellectual functioning of eating disorder patients. Journal of the American Academy of Child & Adolescent Psychiatry, 31(5), 844-846.
- Rebert, W., Stanton, A., & Schwartz, R. (1991). Influence of personality attributes and daily moods on bulimic eating patterns. Addictive Behavior, 16(6), 497-505.
- Reich, J., Nduaguba, M., & Yates, W. (1988). Age and sex distribution of DSM-III personality cluster in a community population. Comprehensive Psychiatry, 29, 298-303.
- Renshaw, D. (1990). Sex and eating disorders. Medical Aspects of Human Sexuality, 24(4), 68, 70-72, 74-77.
- Rhodes, R. (1969). The MacAndrew Alcoholism scale: A replication. Journal of Clinical Psychology, 25, 189-191.
- Rice, C. (1996). Trauma and eating problems: Expanding the debate. Eating Disorders: The Journal of Treatment and Prevention, 4(3), 197-237.

- Rich, C., & Davis, H. (1969). Concurrent validity of MMPI alcoholism scales. Journal of Clinical Psychology, 25, 425-426.
- Richins, M. (1991). Social comparison and the idealized images of advertising. Journal of Consumer Research, 18(1), 71-83.
- Roberto, L. (1986). Bulimia: The transgenerational view. Journal of Marital and Family Therapy, 12, 231-240.
- Roden, J., Silberstein, L., & Striegel-Moore, R. (1985). Women and weight: A normative discontent. In T. Sonderegger (Ed.), Nebraska symposium on motivation: Vol. 32. Psychology and gender. Lincoln, NE: University of Nebraska.
- Rogers, R., & Petrie, T. (1996). Personality correlates of anorexic symptomatology in female undergraduates. Journal of Counseling and Development, 75, 138-144.
- Rohan, W. (1972). MMPI changes in hospitalized alcoholics: A second study. Quarterly Journal of Studies on Alcohol, 33, 65-76.
- Root, M., & Fallon, P. (1988). The incidence of victimization experiences in a bulimic sample. Journal of Interpersonal Violence, 3, 161-173.
- Root, M., Fallon, P., & Friedrich, W. (1986). Bulimia: A systems approach to treatment. New York: W. W. Norton.
- Rorty, M., & Yager, J. (1993). Speculations on the role of childhood abuse in the development of eating disorders among women. Eating Disorders, 1, 199-210.
- Rorty, M., Yager, J., & Rossotto, E. (1994). Childhood sexual, physical, and psychological abuse in bulimia nervosa. American Journal of Psychiatry, 151, 1122-1126.
- Rosen, A., Murkofsky, C., Steckler, N., & Skolnick, N. (1989). A comparison of psychological and depressive symptoms among restricting anorexic, bulimic anorexic, and normal-weight bulimic patients. International Journal of Eating Disorders, 8(6), 657-663.
- Rosen, J., Tacy, B., & Howell, D. (1990). Life stress, psychological symptoms and weight reducing behavior in adolescent girls: A prospective analysis. International Journal of Eating Disorders, 9(1), 17-26.

- Rossiter, E., Agras, W., Telch, C., & Schneider, J. (1993). Cluster B personality disorder characteristics predict outcome in the treatment of bulimia nervosa. International Journal of Eating Disorders, 13(4), 349-357.
- Rothenberg, A. (1986). Eating disorder as a modern obsessive-compulsive syndrome. Psychiatry, 49(1), 45-53.
- Rothenberg, A. (1988). Differential diagnosis of anorexia nervosa and depressive illness: A review of 11 studies. Comprehensive Psychiatry, 29, 427-432.
- Rowston, W.M., & Lacey, J.H. (1992). Stealing in bulimia. International Journal of Social Psychiatry, 38(4), 309-313.
- Rubenstein, C. S., Pigott, T. A., Altemus, M., L'Heureux, F., Gray, J. J., & Murphy, D. L. (1993). High rates of comorbid OCD in patients with bulimia nervosa. Eating Disorders: The Journal of Treatment and Prevention, 1(2), 147-155.
- Ruderman, A., & Grace, P. (1987). Restraint, bulimia, and psychopathology. Addictive Behaviors, 12(3), 249-255.
- Ruderman, A., & Grace, P. (1988). Bulimics and restrained eaters: A personality comparison. Addictive Behaviors, 13(4), 359-368.
- Russell, G. (1979). Bulimia nervosa: An ominous variant of anorexia nervosa. Psychological Medicine, 9, 429.
- Russell, G. (1985). The changing nature of anorexia nervosa: An introduction to the conference. Journal of Psychiatric Research, 19, 101-109.
- Russell, G. (1988). The diagnostic formulation in bulimia nervosa. In D. Garner & P. Garfinkel (Eds.), Diagnostic issues in anorexia nervosa and bulimia nervosa (pp. 3-25). New York: Brunner/Mazel.
- Russell, G., Szmukler, G., Dare, C., & Eisler, I. (1987). An evaluation of family therapy in anorexia nervosa and bulimia nervosa. Archives of General Psychiatry, 44, 1047-1057.
- Sansone, S., Fine, M., Seufferer, S., & Bovenzi, J. (1989). The prevalence of borderline personality symptomatology among women with eating disorders. Journal of Clinical Psychology, 45, 603-610.

- Santonastao, P., Favaretto, G., & Canton, G. (1987). Anorexia in Italy: Clinical features and outcome in a long-term follow-up study. Psychopathology, 20(1), 8-17.
- Schmidt, N., & Telch, M. (1990). Prevalence of personality disorders among bulimics, nonbulimic binge eaters, and normal controls. Journal of Psychopathology and Behavioral Assessment, 12(1), 170-185.
- Schmidt, U., Hodes, M., & Treasure, J. (1992). Early onset bulimia nervosa—Who is at risk? Psychological Medicine, 22(3), 623-628.
- Schmidt, U., Jiwany, A., & Treasure, J. (1993). A controlled study of alexithymia in eating disorders. Comprehensive Psychiatry, 34(1), 54-58.
- Schoemaker, C., Verbraak, M., Breteler, R., & van der Staak, C. (1997). The discriminant validity of the Eating Disorder Inventory-2. British Journal of Clinical Psychology, 36(4), 627-629.
- Schotte, D., & Stunkard, A. (1987). Bulimia vs. bulimic behaviors on a college campus. Journal of the American Medical Association, 258, 1213-1215.
- Schumaker, J., Warren, W., Carr, S., & Schreiber, G. (1995). Dissociation and depression in eating disorders. Social Behavior and Personality, 23(1), 53-57.
- Schumaker, J., Warren, W., Schreiber, G., & Johnson, C. (1994). Dissociation in anorexia nervosa and bulimia nervosa. Social Behavior and Personality, 22(4), 385-392.
- Schwartz, D., & M. Thompson. (1981). Do anorectics get well? American Journal of Psychiatry, 138(3), pp. 319-323.
- Schwartz, M., & Gay, P. (1993). Physical and sexual abuse and neglect and eating disorder symptoms. Eating Disorders: The Journal of Treatment and Prevention, 1(3,4), 265-281.
- Schwartz, M., & Graham, J. (1979). Construct validity of the MacAndrew Alcoholism scale. Journal of Consulting and Clinical Psychology, 47, 1090-1095.
- Schwartz, R., Barrett, M., & Saba, G. (1985). Family therapy for bulimia. In D. Garner & P. Garfinkel (Eds.), Handbook of Psychotherapy for Anorexia Nervosa and Bulimia (pp. 280-307). New York: Guilford Press.

- Schwartz, R., Thompson, M., & Johnson, C. (1985). Anorexia nervosa and bulimia: The sociocultural context. In S. Emmett (Ed.), Theory and treatment of anorexia nervosa and bulimia: Biomedical, sociocultural, and psychological perspectives (pp. 95-112). New York: Brunner/Mazel.
- Scott, R. L., & Baroffio, J.R. (1986). An MMPI analysis of similarities and differences in three classifications of eating disorders. Journal of Clinical Psychology, 42(5), 708-713.
- Scott, R. L., & Thoner, G. (1986). Ego deficits in anorexia nervosa patients and incest victims: An MMPI comparative analysis. Psychological Reports, 58, 839-846.
- Selby, M., & Moreno, K. (1995). Personal and familial substance misuse patterns among eating disordered and depressed subjects. The International Journal of Addictions, 30(9), 1169-1176.
- Selvini-Palazzoli, M. (1974). Self-starvation. London: Chaucer Publishing Co.
- Selvini-Palazzoli, M. (1978). Self-starvation: From individual to family therapy in the treatment of anorexia nervosa. New York: Aronson.
- Shaw, J., & Waller, G. (1995). The media's impact on body image: Implications for prevention and treatment. Eating Disorders: The Journal of Treatment and Prevention, 3(2), 115-123.
- Shefer, T. (1987). Abnormal eating attitudes and behaviors among women students. South African Medical Journal, 72, 419-421.
- Shisslak, C. M., Pazda, S. L., & Crago, M. (1990). Body weight and bulimia as discriminators of psychological characteristics among anorexic, bulimic, and obese women. Journal of Abnormal Psychology, 99(4), 380-384.
- Siegel, M., Brisman, J., & Weinshel, M. (1988). Surviving an eating disorder: Strategies for family and friends. New York: Harper and Row Publishers.
- Sifneos, P. (1973). The prevalence of alexithymic characteristics in psychosomatic patients. Psychotherapy and Psychosomatics, 22, 255-262.
- Sights, J., & Richards, H. (1984). Parents of bulimic women. International Journal of Eating Disorders, 3(1), 3-14.

- Silber, T. (1986). Anorexia nervosa in Blacks and Hispanics. International Journal of Eating Disorders, 5, 121-128.
- Silverman, J. (1989). Louis-Victor Marce, 1828-1864: Anorexia nervosa's forgotten man. Psychological Medicine, 19, 833-835.
- Silverman, J. (1995). History of anorexia nervosa. In K. Brownell & C. Fairburn (Eds.), Eating disorders and obesity: A comprehensive handbook (pp. 141-144). New York: Guilford Press.
- Silverstone, J., Gordon, R., & Stunkard, A. (1969). Social factors in obesity in London. The Practitioner, 202, 682-688.
- Simpson, W., & Ramberg, J. (1992). Sexual dysfunction in married female patients with anorexia and bulimia nervosa. Journal of Sex and Marital Therapy, 18(1), 44-54.
- Singer, J., & Lamb, P. (1966). Social concern, body size, and birth order. Journal of Social Psychology, 68, 143-151.
- Skrabanek, P. (1983). Notes towards the history of anorexia nervosa. Janus, 70, 109-128.
- Slade, P., & Brodie, D. (1994). Body-image distortion and eating disorders: A reconceptualization based on the recent literature. European Eating Disorders Review, 2(1), 32-46.
- Slade, P., & Russell, G. (1973). Awareness of body dimensions in anorexia nervosa: Cross-sectional and longitudinal studies. Psychological Medicine, 3, 188-199.
- Sloan, G., & Leichner, P. (1986). Is there a relationship between sexual abuse or incest and eating disorders? Canadian Journal of Psychiatry, 31, 656-660.
- Small, A.C., Madero, J., Gross, H., Teagno, L., Leib, J., & Ebert, M. (1981). A comparative analysis of primary anorexics and schizophrenics on the MMPI. Journal of Clinical Psychology, 37(4), 733-736.
- Smart, D., Beumont, P., & George, G. (1976). Some personality characteristics of patients with anorexia nervosa. British Journal of Psychiatry, 128(1), 57-60.
- Smith, C., & Steiner, H. (1992). Psychopathology in anorexia nervosa and depression. Journal of the American Child and Adolescent Psychiatry, 31(5), 841-843.

- Sobal, J. (1995). Social influences on body weight. In K. Brownell & C. Fairburn (Eds.), Eating disorders and obesity: A comprehensive handbook (pp. 73-77). New York: Guilford Press.
- Sohlberg, S. (1991). Impulse regulation in anorexia nervosa and bulimia nervosa: Some formulations. Behavioral Neurology, 4(1), 189-202.
- Solyom, L., Freeman, R. J., & Miles, J. E. (1982). A comparative psychometric study of anorexia nervosa and obsessive neurosis. Canadian Journal of Psychiatry, 27, 282-286.
- Solyom, L., Freeman, R. J., Thomas, C., & Miles, J. E. (1983). The comparative psychopathology of anorexia nervosa: Obsessive-compulsive disorder or phobia? International Journal of Eating Disorders, 3(1), 3-14.
- Sours, J. (1974). The anorexia nervosa syndrome. International Journal of Psycho-Analysis, 55, 567-576.
- Sours, J. (1980). Starving to death in a sea of objects. New York: Jason Aronson Press.
- Spack, N. (1985). Medical complications of anorexia nervosa and bulimia. In S. Emmett (Ed.), Theory and treatment of anorexia nervosa and bulimia: Biomedical, sociocultural, and psychological perspectives (pp. 5-19). New York: Brunner/Mazel Publishers.
- Spitzer, R., Yanovski, S., Wadden, T., Wing, R., Marcus, M., Stunkard, A., Delvin, M., Mitchell, J., Hasin, D., & Horne, R. (1993). Binge eating disorder: Its further validation in a multisite study. International Journal of Eating Disorders, 13(1), 137-153.
- Steiger, H., Goldstein, C., Mongraine, M., & VanderFeen, J. (1990). Description of eating-disordered, psychiatric, and normal women along cognitive and psychodynamic dimensions. International Journal of Eating Disorders, 9(2), 129-140.
- Steiger, H., Liquornik, K., Chapman, J., & Hussain, N. (1991). Personality and family disturbances in eating disorder patients: Comparison of "restricters" and "bingers" to normal controls. International Journal of Eating Disorders, 10(5), 501-512.
- Stein, D., & Laakso, W. (1988). Bulimia: A historical perspective. International Journal of Eating Disorders, 7(2), 201-210.

- Stern, S., Dixon, K., Jones, D., & Lake, M. (1989). Family environment in anorexia nervosa and bulimia. International Journal of Eating Disorders, 8(1), 25-31.
- Stern, S., Dixon, K., Nemzer, E., Lake, M., Sansone, R., Smeltzer, D., Lantz, S., & Schrier, S. (1984). Affective disorder in the families of women with normal weight bulimia. American Journal of Psychiatry, 141, 1224-1227.
- Stonehill, E., & Crisp, A. (1977). Psychoneurotic characteristics of patients with anorexia nervosa before and after treatment and at follow-up 4-7 years later. Journal of Psychosomatic Research, 21, 187-193.
- Striegel-Moore, R. (1993). Etiology of binge eating: A developmental perspective. In C. Fairburn & G. Wilson (Eds.), Binge eating: Nature, assessment, and treatment (pp. 144-172). New York: Guilford Press.
- Striegel-Moore, R., Cronan, S., Goebel, A., Pena, L., & Scheibe, K. (1992). Disordered eating in female inpatients with psychoactive substance use disorder. Abstract presented at the 5th International Conference on Eating Disorders, New York.
- Striegel-Moore, R., McAvay, G., & Roden, J. (1986). Psychological and behavioral correlates of feeling fat in women. International Journal of Eating Disorders, 5, 935-947.
- Striegel-Moore, R., Silberstein, L., & Roden, J. (1986). Toward an understanding of risk factors for bulimia. American Psychologist, 41, 246-263.
- Strober, M. (1980). Personality and symptomatological features in young nonchronic anorexia nervosa patients. Journal of Psychosomatic Research, 24, 353-359.
- Strober, M. (1981). The significance of bulimia in juvenile anorexia nervosa: An exploration of possible etiological factors. International Journal of Eating Disorders, 1(1), 28-43.
- Strober, M. (1982). Locus of control, psychopathology, and weight gain in juvenile anorexia nervosa. Journal of Abnormal Child Psychology, 10(1), 97-106.
- Strober, M. (1983). An empirically derived typology of anorexia nervosa. In P. Darby, P. Garfinkel, D. Garner, & D. Coscina (Eds.), Anorexia nervosa: Recent developments in research (pp. 185-196). New York: Alan R. Liss.

- Strober, M. (1984). Stressful life events associated with bulimia in anorexia nervosa: An exploration of possible etiological factors. International Journal of Eating Disorders, 3(2), 3-16.
- Strober, M. (1986). Anorexia nervosa: History and psychological concepts. In K. Brownell & J. Foreyt (Eds.), Handbook of eating disorders: Physiology, psychology, and treatment of obesity, anorexia, and bulimia (pp. 231-246). New York: Basic Books.
- Strober, M. (1991). Disorders of the self in anorexia nervosa: An organismic-developmental paradigm. In C. Johnson (Ed.), Psychodynamic treatment of anorexia nervosa and bulimia nervosa (pp. 354-373). New York: Guilford Press.
- Strober, M. (1992). Family: Genetic studies. In K. Halmi (Ed.), Psychobiology and treatment of anorexia nervosa and bulimia nervosa (pp. 61-76). Washington, DC: American Psychiatric Press.
- Strober, M. (1995). Family: Genetic perspectives on anorexia nervosa and bulimia nervosa. In K. Brownell & C. Fairburn (Eds.), Eating disorders and obesity: A comprehensive handbook (pp. 212-218). New York: Guilford Press.
- Strober, M., & Humphrey, L. (1987). Familial contributions to the etiology and course of anorexia nervosa and bulimia nervosa. Journal of Consulting and Clinical Psychology, 55, 654-659.
- Strober, M., & Katz, J. (1987). Do eating disorders and affective disorders share a common etiology? A dissenting opinion. International Journal of Eating Disorders, 6, 171-180.
- Strober, M., Morrell, W., Burroughs, J., Salkin, B., & Jacobs, C. (1985). A controlled family study of anorexia nervosa. Journal of Psychiatric Research, 19, 239-246.
- Strober, M., Salkin, B., Burroughs, J., & Morrell, W. (1982). Validity of the bulimia-restrictor distinction in anorexia nervosa: Parental personality characteristics and family psychiatric morbidity. Journal of Nervous and Mental Disorders, 170, 345-351.
- Strong, K., & Huon, G. (1997). The development and evaluation of a stage-based Dieting Status Measure (DiSM). Eating Disorders: The Journal of Treatment and Prevention, 5(2), 97-104.

- Stunkard, A. (1993). A history of binge eating. In C. Fairburn & G. Wilson (Eds.), Binge eating: Nature, assessment, and treatment (pp. 15-34). New York: Guilford Press.
- Stunkard, A., & Messick, S. (1985). The Three-Factor Eating Questionnaire to measure dietary restraint disinhibition, and hunger. Journal of Psychosomatic Research, 29 (1), 71-83.
- Sunday, S., Halmi, K. A., & Einhorn, A. (1995). The Yale-Brown-Cornell Eating Disorder Scale: A new scale to assess eating disorders symptomatology. International Journal of Eating Disorders 18(3), 237-245.
- Swift, W., Andrews, D., & Barklage, N. (1986). The relationship between affective disorder and eating disorders: A review of the literature. American Journal of Psychiatry, 143, 290-299.
- Swift, W., & Wonderlich, S. (1988). Personality factors and diagnosis in eating disorders: Traits, disorders and structures. In D. Garner & P. Garfinkel (Eds.), Diagnostic issues in anorexia nervosa and bulimia nervosa (pp. 112-165). New York: Brunner/Mazel Publishers.
- Szmukler, G. I. (1982). Weight and food preoccupation in a population of English schoolgirls. In D. Redfern (Ed.), Understanding anorexia nervosa and bulimia (pp. 21-28). Columbus, OH: Ross Laboratories.
- Szmukler, G. I. (1985). The epidemiology of anorexia nervosa and bulimia. Journal of Psychiatric Research, 19, 143-153.
- Szmukler, G. I., Eisler, I., Gillis, C., & Hayward, M. (1985). The implications of anorexia nervosa in a ballet school. Journal of Psychiatric Research, 19, 177-181.
- Szmukler, G. I., Eisler, I., & Russell, G. F. (1985). Anorexia nervosa: "Parental expressed emotion" and dropping out of treatment. British Journal of Psychiatry, 147, 265-271.
- Tabachnick, B. G., Fidell, L. S. (1989). Using multivariate statistics. Cambridge, MS: Harper and Row.
- Taylor, A. V., Peveler, R.C., Hibbert, G.A., & Fairburn, C.G. (1993). Eating disorders among women receiving treatment for an alcohol problem. International Journal of Eating Disorder, 14(2), 147-151.

- Taylor, G., Bagby, R., Ryan, D., & Parker, J. (1990). Validation of the alexithymia construct: A measurement based approach. Canadian Journal of Psychiatry, 35, 290-297.
- Taylor, M., & Cooper, P. (1986). Body size overestimation and depressed mood. British Journal of Clinical Psychology, 25, 153-154.
- Teusch, R. (1988). Level of ego development and bulimics' conceptualizations of their disorder. International Journal of Eating Disorders, 7(5), 607-615.
- Theander, S. (1970). Anorexia nervosa: A psychiatric investigation of 94 female patients. Acta Psychiatrica Scandinavica, Suppl. 214, 1-194.
- Thelen, M., Farmer, J., Wonderlich, S., & Smith, M. (1991). A revision of the Bulimia Test: The BULIT-R. Psychological Assessment. A Journal of Consulting and Clinical Psychology, 3(1), 119-124.
- Thompson, B. (1992). "A way outa no way": Eating problems among African-American, Latina, and White women. Gender and Society, 6(4), 546-561.
- Thompson, J., & Thompson, C. (1986). Body size distortion and self-esteem in asymptomatic normal weight males and females. International Journal of Eating Disorders, 5, 1061-1068.
- Thompson, M. G., & Schwartz, D. M. (1982). Life adjustment of women with anorexia nervosa and anorexic-like behavior. International Journal of Eating Disorders, 1, 47-60.
- Tiller, J., Schmidt, U., Ali, S., & Treasure, J. (1995). Patterns of punitiveness in women with eating disorders. International Journal of Eating Disorders, 17(4), 365-371.
- Toner, B., Garfinkel, P., & Garner, D. (1987). Cognitive style of patients with bulimic and diet-restricting anorexia nervosa. American Journal of Psychiatry, 144(4), 510-512.
- Toner, B., Garfinkel, P., & Garner, D. (1988). Affective and anxiety disorders in the long-term follow-up of anorexia nervosa. International Journal of Psychiatry in Medicine, 18, 357-364.
- Torem, M. (1986). Dissociative states presenting as an eating disorder. American Journal of Clinical Hypnosis, 29, 137-142.

- Treasure, J., & Holland, A. (1989). Genetic vulnerability to eating disorders: Evidence from twin and family studies. In H. Remschmidt & M. Schmidt (Eds.), Child and youth psychiatry: European perspectives (pp. 59-68). New York: Hogrefend Huber Publishers.
- Troop, N., Schmidt, U., & Treasure, J. (1995). Feelings and fantasy in eating disorders: A factor analysis on the Toronto Alexithymia Scale. International Journal of Eating Disorders, 18(2), 151-157.
- Turner, B. (1984). The body and society: Explorations in social theory. Oxford: Basil Blackwell Press.
- Vandereycken, W. (1995). The families of patients with an eating disorder. In K. Brownell & C. Fairburn (Eds.), Eating disorders and obesity: A comprehensive handbook (pp. 219-223). New York: Guilford Press.
- Vandereycken, W., & Hoek, H. (1993). Are eating disorders culture-bound syndromes? In K. Halmi (Ed.), The psychobiology and treatment of anorexia and bulimia nervosa (pp. 19-36). Washington, DC: American Psychiatric Press.
- Vandereycken, W., & Vanderlinden, J. (1983). Denial of illness and the use of self-reporting measures in anorexia nervosa patients. International Journal of Eating Disorders, 2(4), 101-107.
- Vanderheyden, D., Fekken, G., & Boland, F. (1988). Critical variables associated with bingeing and bulimia in a university population: A factor analytic study. International Journal of Eating Disorders, 7(3), 321-329.
- van der Kolk, B., & Fidler, R. (1994). Childhood abuse and neglect and loss of self-regulation. Bulletin of the Menninger Clinic, 58, 145-168.
- Vanderlinden, J., Vandereycken, W., van Dyck, R., & Vertommen, H. (1993). Dissociative experiences and trauma in eating disorders. International Journal of Eating Disorders, 13(1), 187-193.
- Vigersky, R. (Ed.). (1977). Anorexia nervosa. New York: Raven Press.
- Vize, C., & Cooper, P. (1995). Sexual abuse in patients with eating disorders, patients with depression, and normal controls. British Journal of Psychiatry, 167(1), 80-85.

- Vitousek, K., Daly, J., & Heiser, C. (1991). Reconstructing the internal world of the eating-disordered individual: Overcoming denial and distortion in self-report. International Journal of Eating Disorders, 10(6), 647-666.
- Wagner, S., Halmi, K., & Maguire, T. (1987). Ineffectiveness in patients with eating disorders: One construct or several? International Journal of Eating Disorders, 6(4), 495-505.
- Waller, G. (1993). Association of sexual abuse and borderline personality disorder in eating disordered women. International Journal of Eating Disorders, 13(3), 259-263.
- Waller, G., Hamilton, K., & Shaw, J. (1992). Media influences on body size estimation in eating disordered and comparison subjects. British Review of Bulimia and Anorexia Nervosa, 6(2), 81-87.
- Waller, G., Ruddock, A., & Pitts, C. (1993). When is sexual abuse relevant to bulimic disorders? The validity of clinical judgments. European Eating Disorders Review, 1, 143-151.
- Waller, G., Slade, P., & Calam, R. (1990a). Family adaptability and cohesion: Relation to eating attitudes and disorders. International Journal of Eating Disorders, 9(2), 225-228.
- Waller, G., Slade, P., & Calam, R. (1990b). Who knows best? Family interaction and eating disorders. British Journal of Psychiatry, 156, 546-550.
- Walsh, B., Roose, S., Glassman, A., Gladis, M., & Sadik, C. (1985). Bulimia and depression. Psychosomatic Medicine, 47, 123-131.
- Ward, L. (1991). A comparison of *T* scores from the MMPI and the MMPI-2. Psychological Assessment: A Journal of Consulting and Clinical Psychology, 3(4), 688-690.
- Wear, R., & Pratz, O. (1987). Test-retest reliability for the Eating Disorder Inventory. International Journal of Eating Disorders, 6, 767-769.
- Weed, N., Butcher, J., McKenna, T., & Ben-Porath, Y. (1992). New measures for assessing alcohol and drug abuse with the MMPI-2: The APS and AAS. Journal of Personality Assessment, 58(2), 389-404.

- Weiss, S. R., & Ebert, M. H. (1983). Psychological and behavioral characteristics of normal weight bulimics and normal weight controls. Psychosomatic Medicine, 45, 293-302.
- Weiss, S. R., & Ebert, M. H. (1987). Psychological and behavioral characteristics of normal-weight bulimic and normal-weight controls. Psychosomatic Medicine, 49, 293-303.
- Whisler, R. H., & Cantor, J. M., (1966). The MacAndrew Alcoholism Scale: A cross-validation in a domiciliary setting. Journal of Clinical Psychology, 22(3), 311-312.
- Whitehouse, A., & Button, E. (1988). The prevalence of eating disorders in a U.K. college population: A reclassification of an earlier study. International Journal of Eating Disorders, 7, 393-397.
- Wiggins, J. (1966). Substantive dimensions of self-report in the MMPI item pool. Psychological Monographs, 80(22), 630.
- Wiggins, J. (1969). Content dimensions of the MMPI. In J. Butcher (Ed.), MMPI: Research developments and clinical applications (pp. 127-180). New York: McGraw-Hill Publishers.
- Willi, J., & Grossman, S. (1983). Epidemiology and anorexia nervosa in a defined region of Switzerland. American Journal of Psychiatry, 140, 564-567.
- Williams, A., McCourt, W., & Schneider, L. (1971). Personality self-descriptions of alcoholics and heavy drinkers. Quarterly Journal of Studies on Alcohol, 32, 310-317.
- Williams, G., Chamove, A., & Millar, H. (1990). Eating disorders, perceived control, assertiveness and hostility. British Journal of Clinical Psychology, 29(3), 327-335.
- Williams, G., Power, K., Millar, H., Freeman, C., Yellowlees, A., Dowds, T., Walker, M., Campsie, L., MacPherson, F., & Jackson, M. (1993). Comparison of eating disorders and other dieters/weight groups on measures of perceived control, assertiveness, self-esteem, and self-directed hostility. International Journal of Eating Disorders, 14(1), 27-32.

- Williams, G., Power, K., Millar, H., Freeman, C., Yellowlees, A., Dowds, T., Walker, M., & Parry-Jones, W. (1994). Development and validation of the Stirling Eating Disorder Scales. International Journal of Eating Disorders, 16(1), 35-43.
- Williams, R., Schaefer, C., Shisslak, C., Gronwaldt, V., & Comerici, G. (1986). Eating disorders and behaviors in adolescent women: Discrimination of normals, dieters, and suspected bulimics using the Eating Attitudes Test and Eating Disorder Inventory. International Journal of Eating Disorders, 5, 879-894.
- Williamson, D. (1990). Assessment of eating disorders: Obesity, anorexia, and bulimia nervosa. New York: Pergamon Press.
- Williamson, D., Anderson, D., Jackman, L., & Jackson, S. (1995). Assessment of eating disordered thoughts, feelings, and behaviors. In D. Allison (Ed.), Handbook of assessment methods for eating behaviors and weight-related problems (pp. 303-346). Thousand Oaks, CA Sage.
- Williamson, D., Kelley, M., Davis, C., Ruggiero, L., & Blouin, D. (1985). Psychopathology of eating disorders: A controlled comparison of bulimic, obese and normal subjects. Journal of Consulting and Clinical Psychology, 53(1), 161-166.
- Williamson, D., Prather, R., & Goreczney, A. (1989). A comprehensive model of bulimia nervosa: Empirical evaluation. In W. Johnson (Ed.), Advances in eating disorders (pp. 117-126). Greenwich, CT: JAI Press.
- Willmuth, M., Leitenberg, H., Rosen, J., & Cado, S. (1988). A comparison of purging and nonpurging normal weight bulimics. International Journal of Eating Disorders, 7, 825-835.
- Wilson, C., Hogan, C., & Mintz, I. (1983). Fear of being fat: The treatment of anorexia nervosa and bulimia. New York: Jason Aronson.
- Wilson, G. (1984). Toward the understanding and treatment of binge-eating. In R. Hawkins, W. Freemouw, & P. Clement, (Eds.), The binge-purge syndrome: Diagnosis, treatment and research (pp. 203-211). New York: Springer.
- Wilson, G. (1995). The controversy over dieting. In K. Brownell & C. Fairburn (Eds.), Eating disorders and obesity: A comprehensive handbook (pp. 87-92). New York: Guilford Press.

- Wilson, G., & Lindholm, L. (1987). Bulimia nervosa and depression. International Journal of Eating Disorders, 6(6), 725-732.
- Wilson, J. (1992). Bulimia nervosa: Occurrence with psychoactive substance use disorders. Addictive Behaviors, 17, 603-607.
- Winokur, A., March, V., & Mendels, J. (1980). Primary affective disorders in relatives of patients with anorexia nervosa. American Journal of Psychiatry, 137, 695-698.
- Wolf, E., & Akamatsu, T. (1994). Exercise involvement and eating disordered characteristics in college students. Eating Disorders: The Journal of Treatment and Prevention, 2(4), 308-318.
- Wolf, N. (1990). The beauty myth. London: Chatto & Windus.
- Wonderlich, S. (1995). Personality and eating disorders. In K. Brownell & C. Fairburn (Eds.), Eating disorders and obesity: A comprehensive handbook (pp. 171-176). New York: Guilford Press.
- Wonderlich, S., Swift, W., Slotnick, H., & Goodman, S. (1990). Screening for Axis II personality disorders in women with bulimic eating disorders. Psychosomatics, 30, 255-262.
- Woodside, D. (1993). Genetic contributions to eating disorders. In A. Kaplan & P. Garfinkel (Eds.), Medical issues and the eating disorders: The interface (pp. 193-212). New York: Brunner/Mazel.
- Woodside, D., & Garfinkel, P. (1992). Age of onset in eating disorders. International Journal of Eating Disorders, 12(1), 31-36.
- Wooley, S. (1991). Uses of countertransference in the treatment of eating disorders: A gender perspective. In C. Johnson (Ed.), Psychodynamic treatment of anorexia nervosa and bulimia (pp. 245-294). New York: Guilford Press.
- Wooley, S. (1993). Recognition of sexual abuse: Progress and backlash. Eating Disorders: The Journal of Treatment and Prevention, 1(3-4), 298-314.
- Wooley, S., & Wooley, O. (1979). Obesity and women-I: A closer look at the facts. Women's Studies International Quarterly, 2(1), 69-79.
- Woznica, J. (1990). Delay of gratification in bulimic and restricting anorexia nervosa patients. Journal of Clinical Psychology, 46(6), 706-712.

- Yoshimura, K. (1995). Acculturative and sociocultural influences on the development of eating disorders in Asian-American females. Eating Disorders: The Journal of Treatment and Prevention, 3(3), 216-228.
- Zerbe, K. (1992). Eating disorders in the 1990's: Clinical challenges and treatment implications. Bulletin of the Menninger Clinic, 56(2), 167-187.
- Zerbe, K. (1993). The body betrayed: Women, eating disorders, and treatment. Washington, DC: American Psychiatric Press.
- Zerbe, K. (1995). The emerging sexual self of the patient with an eating disorder: Implications for treatment. Eating Disorders: The Journal of Treatment and Prevention, 3(3), 197-215.
- Zotter, D., & Crowther, J. (1991). The role of cognitions in bulimia nervosa. Cognitive Therapy and Research, 15(5), 413-426.
- Zwaan, M., & Mitchell, J. (1993). Medical complications of anorexia nervosa and bulimia nervosa. In A. Kaplan & P. Garfinkel (Eds.), Medical issues and the eating disorders: The interface (pp. 60-100). New York: Brunner/Mazel Publishers.

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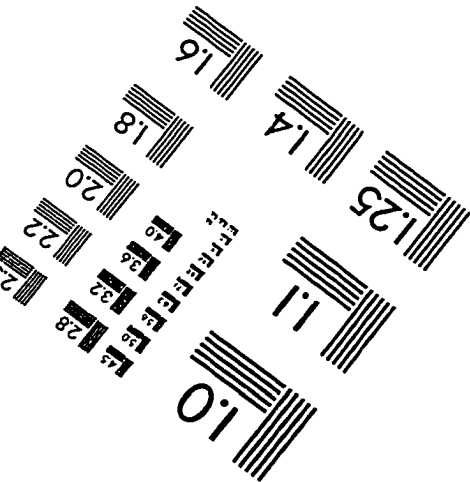
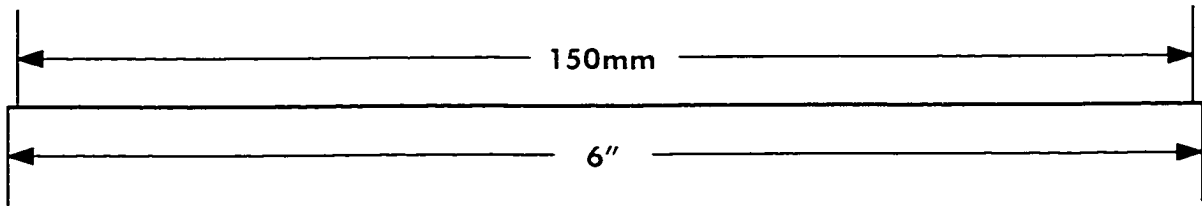
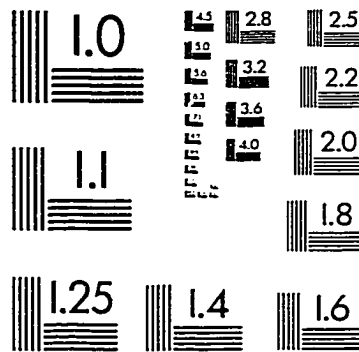
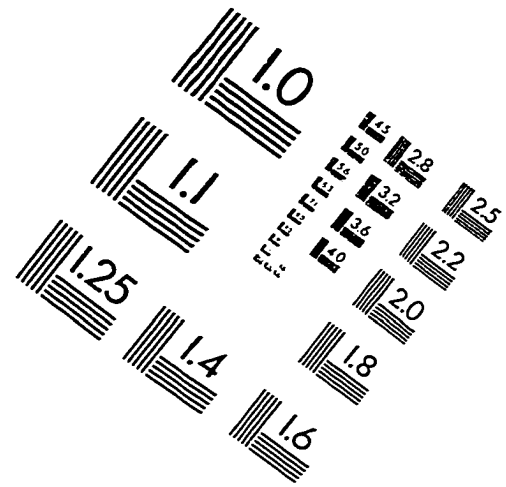
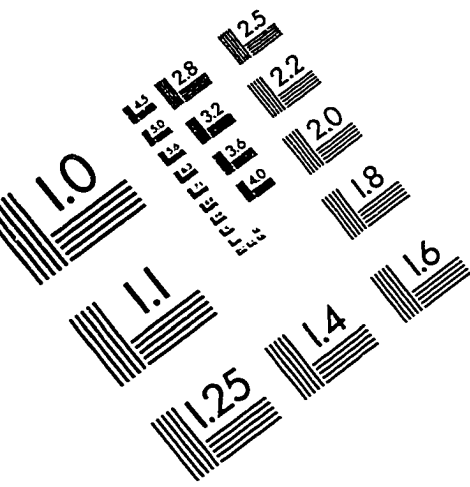
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International Association of Eating Disorders Professionals

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